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52 "	60

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JOHN F. RIDAY,
GENERAL MANAGER ADVERTISING DEP'T.

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WEDNESDAY, APRIL 4, 1888.

LEADING TOPICS THIS WEEK.

Tariff Reform. (Editorial.)
The Position of Opium. (Editorial.)
Conference on Box and Cartage. (Editorial.)
Legislative Corruption Exposed. (Editorial.)
Gum Arabic Prospects. (Editorial.)
Progress of e Lard Hearing. (Editorial.)
The March Oil Report. (Editorial.)
Druggists Opposed to the Liquor Tax. (Editorial.)
Action of the Ohio, Kentucky and Indiana Exchange.
Alizarine.
Minority Report on the Glass Schedule.
Glue Manufacturers and the Tariff.
Ethereal Oils.
Shipping Petroleum in Bulk.
American Association of Railway Chemists.
Famous Oil Scouts.
Art of Drilling for Oil.
Constitution of Coloring Matters.
Flower Industry of Grasse.
Cocaine and Its Salts.
Medicated Wines.
Specific vs. ad Valorem Duties.

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WEEKLY REVIEW.

The rate for call loans has been advanced and though the supply of loanable funds is ample for all requirements, intending borrowers are required to pay 2½@4 per cent. There is a limited demand for commercial paper, with a fair supply. We quote 60 to 90 days' indorsed bills receivable at 5¼ per cent.; first class four months' commission house names at 5½@6, and good single names—jobbers—having four to six months to run at 6@7. The following are the rates of exchange on New York: Savannah, buying ⅛, selling 3-16@¼ premium. Charleston, buying ⅛, selling ¼ premium. New Orleans commercial, 75c per $1,000 premium. St. Louis, 75@90c per $1,000 premium. Chicago, 40c for $1,000 premium. Sterling exchange is lower and weak.

Sterling, 60 days, nominal	$4 86	@4	86½
Sight, nominal	4 88	@4	88⅛
60 days, actual	4 85½	@4	85¾
Sight, actual	4 87	@4	87¼
Cable Transfers	4 87½	@4	87¾
Commercial 60 days	4 84½	@4	84¾
Paris, 60 days	5 20⅝	@5	19⅝
Sight	5 18¾	@5	17⅛
com, 60 days	5 21⅛	@5	21¼
com, sight	5 20	@5	19⅜
Antwerp, 60 days	5 22½	@5	21⅜
Swi. 60 days	5 20⅝	@5	20
Sight	5 18¾	@5	18⅛
Reic marks (4) 60 days			95⅝@95⅞
(4) sight			95¾@95⅞
(4) com 60 days			95⅛@95¼
(4) com, sight			95⅝@95⅞
Guilders, 60 days			40¼@40 5-16
Sight			40 7-16@40⅜
com 60 days			40¼@40 3-16
com sight			40 5-16@40⅜
Copenhagen, Stockholm and Christiana, Krona, 60 days			26⅝@26 11-16
sight			26¾@26 15-16

TARIFF "REFORM."

The Mills bill, which has been under consideration by the Committee of Ways and Means, has received its finishing touches at the hands of that committee, and was submitted to the House on Monday. It is reported that several amendments have been made, but their nature or extent have not been published, and we defer further consideration of proposed changes in the present tariff until the text of the amended bill is received. It appears that the provisions of the bill as submitted to the committee are variously interpreted. It was by many believed that it was the intention of the author of the bill that all articles not directly referred to in the text should remain subject to the duty at present imposed, and we are assured that while the bill was yet in embryo the statement was made that such was the purpose of the bill. From reliable sources we gather that articles not mentioned in the Mills bill will remain unchanged, the bill being supplementary to the present tariff and not a substitute for the tariff law of 1883. There was so much left for interpretation in the original bill that it is difficult to determine what was intended, and it would require a judicial decision to determine the rate of duty on many articles properly embraced in the chemical schedule. As a tariff reformer Mr. Mills has proven a failure. That, at least, is plain to every one interested in the schedule which comprises so large a part of the present tariff and which requires special fitness to comprehend the varied and often conflicting interests affected by contemplated changes.

The minority of the committee of Ways and Means have prepared a report which protests strongly against the passage of the amended Mills bill reported by the committee. The minority report makes a vigorous attack on the free list showing the sufferers by the sweeping changes are made the victims of the British policy through the agency of the American Congress. A part of the report is devoted to a scathing attack upon the majority report of the committee for the manner in which they prepared their measure. It asserts that the great business interests of the country, largely represented by the manufacturer, were treated with silent contempt, and over the earnest protest of the minority these interests were not even allowed the right of petition guaranteed to every American citizen. The report goes on to say that every effort was made by the minority to induce the majority to afford the manufacturers at least a hearing, but every appeal was met with scornful derision. The report adds that over three months' time was consumed by the majority in star-chamber council, and that the minority was completely ignored. We have before been told that manufacturers have been accorded but a reluctant hearing and their arguments ignored, while the statements of a pronounced free trade lobbyist, who figured prominently during the tariff discussion in the winter and early spring of 1883, have been accepted as conclusive. The majority report is doubtless deserving of the scathing attack made by the minority. The bill, as referred to the committee, was full of absurdities, among the worst being the drag net clause on page five, lines 103 to 107 inclusive.

The Mills bill, as referred to the Committee of Ways and Means, may be regarded as a thing of the past, and until a copy of the bill, as amended, is received, no correct information as to the changes made is obtainable. It would be well, however, that those of our readers who find their business likely to be jeopardized by any of the provisions in the original bill, send protests to the representatives in Congress against the passage of the dangerous clauses. Such protests should, of course, be emphasized by plain statements showing the injury likely to result accompanied by statistics necessary to carry conviction. While we do not believe that the bill to be presented, or any other, will be passed this month, it is important that steps be taken immediately to inform the members of Congress of the true effect the passage of such a bill would have that they may be fully informed in time.

THE POSITION OF OPIUM.

The weak and depressed condition of the opium market in the face of an unusually strong statistical showing is very puzzling to those who are accustomed to associate advancing prices with the reports of short supplies. The reports from the primary markets, as well as the statistics of London and New York, have indicated steadily decreasing stocks, but they have failed to exert more than a temporarily beneficial effect upon the market. On the contrary, each slight recovery has been followed by more pronounced depression than the state which preceded it. Still, there has been no falling off in the consumption, and about the only explanation that offers itself is, that as a speculative article opium no longer has attractions for investors. Yet there is a very well defined belief in some quarters—and it has been frequently put forth in explanation of the apparently anomalous position of the drug—that the depression is the result of bear influences exerted by two, or possibly more, of the leading houses in the trade to screen their efforts to get control of the visible supply, or as much of it as is obtainable. Their failure to avail themselves of the advantages of the situation is attributed to the lack of speculative interest outside. Three weeks ago it was believed that the bears were about to show their hand, and for a day or two there was some excitement in the market, but the appearance of the blizzard put an end to the boom—if it was to have been a boom—and since then there has not been enough interest displayed to lift the market out of the slough of despond in which the blizzard left it.

If the speculators have been keeping prices down for an object, there is a possibility that they may have waited too long to accomplish their purpose. Already the prospects of the new crop are beginning to take up a considerable space in the reports from Smyrna and they will naturally have their effect upon buyers. However, it is too early yet for reliable information and as might be supposed the reports from the growing districts are very contradictory. Some estimates place the probable yield at 8,000 baskets, while others put it at 6,000, but, as at last advices, snow was said to cover a good deal of the growing crop, any estimate is little better than a guess, that might be two or three thousand cases out of the way on either side. One thing is quite certain—if a bull movement is to be inaugurated, it cannot be delayed much longer. We shall soon be given an opportunity to determine whether heavy speculative dealings in opium have, as some claim, really become things of the past.

A correspondent who has kept a record of stocks, prices, etc., for a number of years past has sent us a tabulated statement which will be found interesting and instructive in the comparisons it presents. On February 1st, 1881, the stock on hand in Symrna was 902 cases, in London 2,100 cases and in New York 2,198 cases, a total of 5,200 cases. From February 1st to August 1st that year the consumption amounted to 3,000 cases, leaving a stock of 2,200 cases on hand at the latter date. The consumption, supplies, etc., from that time to the present are shown below:

	Old crop on hand.	Crop of year.	Price.	Total cases on hand.	Consumption of year.	Shipments to China.
Aug. 1, 1881.	2,200	10,500	$3.00	12,700	6,000	1,000
" 1882.	5,700	4,000	3.37½	9,700	6,000	....
" 1883.	3,700	7,000	2.50	10,700	6,000	....
" 1884.	4,700	4,500	3.00	9,200	6,000	....
" 1885.	3,200	7,600	2.20	10,800	6,000	....
" 1886.	4,800	7,300	1.60	12,100	6,000	905
" 1887.	5,195	1,800	3.87½	6,995	6,000	....
" 1888.	995	....	....	....	....	....
		42,700			42,000	1,905

	Cases.
Stock on hand Feb. 1, 1881	5,200
Crops from 1881 to 1888	42,700
	47,900
Consumption for 7 years	42,000
Exports to China	1,905
Stock on hand Feb. 1, 1888	3 995
	47,900
Stock in Smyrna, London and New York Feb. 1, 1888	3,995
Consumption Feb. 1 to Aug. 1, 1888	3,000
Balance of old crop on hand Aug. 1, 1888.	995

Estimating the consumption on the basis of preceding years the stock left over at the beginning of August will be 1,200 cases less than the smallest supply on August 1st in any of the preceding seven years. But our correspondent thinks that, if anything, the consumption of opium is increasing and that the visible supply therefore, is not much more than sufficient to meet the requirements of trade for the next six months, particularly as a certain portion of the stock is always held off the market at the time when the new crop begins to come in.

THE F. O. B. CONTROVERSY.

The jobbing drug trade of this city met last Wednesday to discuss the box and cartage question in response to the request of Chairman Myers of the special committee appointed by the National Wholesale Druggists Association. He came here some days ago well supplied with ammunition to clinch his arguments in favor of restoring charges, and exhibited documentary evidence to show that Missouri, Illinois, Michigan, Ohio, Indiana, Kentucky, Pennsylvania and Maryland were solid on the change and pledged to support it. The trade was fully represented at the meeting with the exception of one prominent house and as the position of the absent firm has not been defined, the conference did not result as expected. The sentiment which prevailed was unanimously in favor of a restoration of the charges but no positive action could be taken until every house had manifested a willingness to depart from the old custom. But one link to the chain is said to be missing, and the leaders in the movement are encouraged to believe that this will be supplied in a few days, as a private conference yet to be held will determine the success or failure of the efforts to place New York on the right track, and previous expressions of opinion from the house referred to have been of a favorable character. Should the change not be adopted here, then the controversy may culminate in the f. o. b. flag being hoisted in the States that were first to enter the present movement, and there is a strong probability that the go-as-you-please campaign then inaugurated would not end with free delivery and free boxes. Competition may cause the payment of freight to destination, and besides the loss entailed by the f. o. b. system, the jobbers will be required to face the dangerous accompaniment which not only means curtailed profits but a forerunner of other evils to the trade. The wholesale association has endeavored to prevent this result by the appointment of committees to investigate disputes and remove the unpleasant features of trade.

The New England States, like New York, are backward in adopting the

proposed change. They are waiting for Boston to fall into line but the jobbers in that city are disposed to restore charges on cartage alone; they believe in leaving the question of boxes to individual action. The chairman of the committee has likewise been laboring there and he hopes to bring them around all right. Attention is also directed to the interior of New York State, which has been a fruitful source of complaint to the metropolis. It is claimed, however, that the difficulty can be satisfactorily arranged whenever the jobbers in this city are a unit in adopting the change. It may require one or two weeks more to settle the matter.

The trouble with an agreement of this character is its stretching qualities to suit individual cases. If it is decided to restore charges on boxes there will necessarily be some difference of opinion as to the amount to be charged; cities in the lumber districts can furnish boxes cheaper than New York and other places, and this fact may prove the actual bone of contention. The compact may work well enough for a short season until special terms, not considered an invasion, are granted by degrees, thus opening the door for a general stampede from the original purpose. It is easier to adopt such a method of transacting business than to observe it.

EXPOSURE OF LEGISLATIVE CORRUPTION.

Astounding revelations have been made regarding the introduction and progress of the State assembly bill No. 191 for the alleged better protection of the public health in relation to the sale of medicines and medicinal preparations. It was referred to the Committee on Public Health, then sent to the House for consideration; put in charge of the Committee of the Whole, and ordered to be recommitted to the Committee on Affairs of Cities. As stated in last week's issue of the REPORTER the bill was reported adversely, and thus its short career was ended, but not without confirming the well-grounded suspicions that it was one of those "striking" measures introduced for the purpose of extorting money from manufacturers or corporations. The "bleeding" process at Albany has been carried on with such brazen effrontery, that a daily paper in this city determined to capture the king of the lobby in his own net, and selected the proprietary medicine bill to execute the cleverly laid plan. The detective employed in the case was a woman who pretended to be the wife of a Philadelphia manufacturer of proprietary goods, and she called upon this professional briber and lobbyist to secure his assistance in defeating the bill referred to. How well she succeeded in exposing the nest of corruption at the State capital, is best related in the language of the chief boodler who unconsciously committed himself to the mercy of the female reporter in disguise. By assumed innocence and a natural ignorance she wormed this disconnected confession from his lips by degrees:

"Keep up your nerve; I'll kill that bill, but it will take money; can assure you it will be killed for $2,000, but of course you need not talk of that amount; there will be my expenses and some Assemblymen to pay; the majority gains, and there are six out of eleven committeemen whom I can buy; you can get the lot for $1,000. I just stay at Albany to watch bills such as this one; I've had my agents send out hundreds of copies of it. You came just to the right one to help you this time, as the father of the bill would have taken your money and given no returns."

At a subsequent interview this destroyer of the State's honor said:

"Well, I saw that you were anxious to kill the bill, and I told you that it should be killed. It's done, and it will never bother you again. I had the bill transferred from the committee that first had it in charge. Mr. Crosby could not be bought, and I knew he and some others determined to pass it, so I went to the ones I told you I could get and said I wanted that bill killed. They were anxious to get rid of it, so I had it reported back to the Committee on Public Health, as I could get them easier. They asked me what it was worth and I told them $1,000, after which they promised to kill it. They dare not refuse as I am head of the Lobby and keep a lot of runners who watch and know everything that happens. They report to me and I have books in my rooms where entries are made of every bill and notes of every incident connected with it. I told the committee that the bill had to be killed and I had to give my check for $1,000 right off. *I have control of the House and can pass or kill any bill* that so pleases me. Next week I am going to pass some bills and I'll get $10,000 for the work. I often get that or more to pass or kill a bill. I want to deal honestly with you and will only charge $250 for my expenses; that will make a total of $1,250."

If legislation can be influenced by bribery, as charged, the business interests of the State are at the mercy of these money-grabbers who have no fear of the penalty of five years imprisonment and $5,000 fine. The proprietary medicine bill was conceived in iniquity, born of malpractice and doomed to a natural death, notwithstanding the illegitimate influence. There is no evidence that bribes were used or that they were necessary to defeat this proposed act, as the committee had reported adversely before this adventure, but the investigation discloses an appalling weakness in human nature at Albany which threatens the security of commercial rights.

GUM ARABIC PROSPECTS.

The British Consul at Suakin, according to an item in a London exchange, strongly urges his Government to allow the resumption of commercial relations with the Soudan. The natives are anxious to be again permitted to trade freely, it is said, and if the obstacles raised by the British are removed, the consul anticipates that the products of equatorial Africa would soon again be brought to European markets. If the advice of the Consul is heeded, a material change in the complexion of the gum arabic trade would be a result particularly interesting to the drug world. It is entirely dependent upon the Soudan for supplies of this valuable gum, but for several years past, owing to the closing of that country to commerce in consequence of the rebellion of the natives, but an insignificant quantity has found its way to the consuming markets. The result is that some of the higher grades are not to be found anywhere, and the high prices charged for the other qualities that are still in stock have checked their consumption. Consumers have been compelled to use other gums that are not quite as good as arabic, but which are made to answer the purpose fairly.

In the event that commercial relations with the Soudan are resumed, there is little prospect that supplies of gum arabic will make their way to market with any degree of promptness or regularity. It takes nine months from the time of beginning negotiations with the natives for the gum to reach Cairo, and as these natives are an improvident lot, it is hardly likely that they have any stock of the gum gathered, particularly after being cut off from a market for so long a time. There is another reason why the question of future supplies of arabic is problematical. England has a special reason in preventing the marketing of that gum which may not be generally known. India supplies a gum which is a substitute for arabic in many respects, though it does not fully answer all purposes. This gum is the principal stock of the English trade and has been introduced on this side with more or less success, though no doubt it would be promptly discarded or its consumption materially curtailed, if arabic were available. The English Government's interest lies in fostering the interests of her Indian possessions and it is natural that she should be slow to take any step that would injuriously affect those interests.

The gum merchants in this market have used every effort to ascertain when they might expect fresh supplies of arabic; but the best information they have obtained leads them to the conclusion that none will be forthcoming this year at any rate, and that the question of supplies thereafter depends upon the action the English Government may take, on the suggestion made by her Consul at Suakin or for some other reason. The item above referred to states that in 1883 gum to the value of about £57,000 was shipped from Suakin, while in 1886 the value of the shipments was only £1,600, though they increased last year to £5,000. It is possible that the latter refers to the gum that was shipped last year via Massowah, and which gave rise to the hope that the market would have this as a source to depend upon in the future. The hope was short-lived, as the shipments were soon prohibited by King John of Abyssinia. From present indications our market will have to depend, for another year at least, upon substitutes, of which Senegal gum is the chief. If the early reports are confirmed, the supply of this gum will also be short. The crop is rather later this year than usual, and is only just beginning to come in at Bordeaux, and in such quantities as to warrant the belief that the earlier reports regarding the quantity were correct.

THE LARD HEARING.

The Committee having in charge the investigation of hog products are acting as umpires in settling disputes between the packing interests, and the lard agitation has been given second place on account of its insignificance compared to the weightier subject from the far west. The committee however, will not overlook the fact that disgusting slaughter house garbage is bleached with chemicals and made into lard by the very men who have been most persistent in their opposition to the wholesome vegetable refined lard of commerce, because of sharp competition. They have practiced the worst forms of adulteration in their horrible compounds according to the published evidence, while jealously prompted them to allege adulteration in the manufacture of cotton oil lard, which is acknowleded on every hand to be superior in all physical requisites to the lard without cotton oil. The pure food laws of England have in no way interfered with the sale of American refined lard and no complaints have come to the surface, which is good evidence that the article gives satisfaction under the rigid scrutiny of the exacting foreign buyers.

THE OIL FIELD REPORT FOR MARCH.

The report of operations in the oil fields of Pennsylvania and New York during the month of March, while by no means bearish, is far less satisfactory to the managers of the shut-down than was the report of operations for the month of February. In the Washington field the incoming of the Fergus gusher and a good well at Taylorstown has stimulated new ventures, and drilling is being prosecuted with vigor, despite the efforts of the Producers' Protective Association to induce the operators to come into their fold and abstain from prosecuting the drill until next November. Thus far these new ventures have not affected the integrity of the shut-down, so far as the P. P. A. is concerned, but it is probable that the increase of operations by outsiders may compel the members of that organization to modify their plans as a measure of self protection. It is without doubt the most formidable question the association has had to meet, and is one they have been fortunate in not encountering at an earlier date. The number of wells completed during March was sixty-seven, an increase of eleven over the number completed the month previous. The number of dry holes found was twenty-two, which is a decrease of three, making the number of new producing wells forty-five, while the number for February was only thirty-one. This makes a more favorable showing, though the proportion of thirty-three per cent. of dry holes is still very large and may well cause wildcatters anxious consideration in the location of new ventures. The new production of these forty-five new producing wells is given at 3,048 barrels, or an average of nearly sixty-seven and three-quarters barrels per well. For February the average per well was less than twenty barrels, the total being 610 barrels. This showing may well be regarded with some concern by the members of the P. P. A. as it has exerted a marked bearish influence in the speculative market for certificates. The number of new rigs up and building at the end of March was thirty-four, while at the end of February the number was twenty-eight, This increase is, of course, due to the stimulus given to new ventures by the two gushers brought in. The number of drilling wells at the end of March was sixty-nine, while the number at the end of February was eighty-three. The decrease is, in a measure, due to the larger number of wells completed during the month. Taking the report as a whole, it is a disappointment to the associated producers, though it proved a surprise to no one interested, as the daily reports from the field have given a fair indication of what the monthly report would show. It is probable that the present month will show still further increase in new operations, as a number of drilling wells are nearing the sand, and should these prove good producers it will stimulate drilling operations to a degree that may necessitate a different course by the P. P. A.

THE LIQUOR TAX ON DRUGGISTS.

Wholesale and retail druggists of Pennsylvania are taking advantage of the present agitation of the internal revenue question to encourage Congress in their behalf. The Committee on Legislation of the Pennsylvania Pharmaceutical Association, have distributed copies of petitions throughout different states accompanied by a request that prompt and decisive action be taken to further their interests in this respect. The petition calls for a repeal of the internal revenue law which classes druggists as liquor dealers and requires them to take out a special license at the rate of twenty-five dollars annually; an argument is also made for a reduction of the tax on spirits instead of advocating free alcohol for industrial purposes, which is so much desired by chemical manufacturers.

The wishes of the petitioners are recognized in the Randall bill, but as there is no hope of its passage, the present method of agitation is the next best move. The internal revenue bill of the Ways and Means Committee, prepared in the early part of March, also provided for the repeal of the license tax, but the measure seems to be buried as no progress has been reported since March 6. It is about time that the drug trade was relieved of the odious classification as liquor dealers and the consequent tax of twenty-five dollars. Our legislators have failed to comprehend the difference between the dealer in beverages and the dealer in medicinal preparations. The present unjust law places the drug store on a level with the saloon and this comparison has been the "thorn in the flesh" of the druggists, while the owners of liquor stores and saloons smile at the annoyance of their neighbors and use their influence to maintain the pretended relation. The liquor men will undoubtedly oppose the suggested changes, but the druggists of

the country certainly have sufficient influence to get satisfaction from Congress when they can show the justice of their claims. A strong plea from all the pharmaceutical associations and well signed petitions, ought to have the desired result.

TRADE ITEMS.

The New Jersey Legislature adjourned sine die last week.

J. Frank Hayes, druggist, at Philadelphia, has confessed judgments for $2,968, and execution has been issued.

The minority report of the Ways and Means Committee is strongly opposed to the passage of the Mills tariff bill.

It is said that from May 1 an export duty equal to 3d per lb. will be levied on all cinchona bark exported from Bolivia.

T. E. Newkirk, druggist at Walden, N. Y., has made an assignment to N. J. Fowler. He has been in business about nineteen years.

Two bags of spurious cubeb berries said to have come from New York were sold at a recent drug sale in London at £20 per cwt.

The American Salt Company of California has brought suit for $25,000 against Alfred Crotty & Co. of San Francisco, for damages by infringement.

We are glad to say that Mr. J. Seaver Page has recovered from his unfortunate accident and is again to be found at his accustomed desk in the office of F. W. Devoe & Co.

Mr. Henry C. Butcher, President of the Southern Oil Co., was in the city on Saturday and Monday and made his headquarters at the office of the company.

Late advices from Peru are to the effect that the contemplated monopoly of the opium trade in that country by the Government will probably not be carried out.

At Delphos, Ohio, March 26, the stock room and paper house of the Synvita Medicine Company, owned by H. P. Eysenbach, were destroyed. Loss, $3,000; fully insured.

The annual dinner of the New York College of Pharmacy was held at Delmonico's last evening, and many friends of the institution were present to celebrate the 58th anniversary.

The Canadian Government is about to present a bill to Parliament covering Clause 16 of the English Merchandise Marks Act prohibiting the importation of goods fraudulently marked.

The observance of Good Friday was recognized by business men generally. With the exception of the Metal and Maratime all the business exchanges were closed, and not a few of the business offices.

A British company has been successful in discovering deposits of quicksilver in the neighborhood of Belgrade, and it is said that the results already obtained are so satisfactory that the Rothschild group is taking an interest in the matter.

The Congressional Committee on Foreign Affairs has recommended for passage a joint resolution appropriating $25,000 to enable the United States to participate in the International Exhibition to be held at Barcelona, Spain, in April, 1888.

In the New York Senate last week Mr. Low tried to press his resolution authorizing the Senate Committee on General Laws to resume its Trust investigation during the coming summer, i. e., enjoy a junketing tour at the State's expense, but his scheme failed.

In a contract for the delivery of goods "free on board" a vessel the seller is under no obligation to act until the buyer names the ship to which the delivery is to be made, according to the decision of the Supreme Court of Pennsylvania in the case of Dwight vs. Eckert.

Messrs. Chas. Moser & Co., the color manufacturers of Cincinnati, made a wise move when they established a branch house in New York under the management of Mr. H. Conklin. He has exceeded the expectations of the firm in the amount of business transacted and the future prospects are very promising.

A company has recently been organized in Pittsburg, Pa., for making cement, with a capital of $50,000. The patentee of the process for making the cement is Mr. John Q. Everson, who is superintending the erection of the mill, and will have the management of it when completed.

Drug stores in this vicinity are doing a rushing business. During March and April the largest prescription business of the year is always done, and it has been especially so this year. This, it is thought, is due to the blizzard and to the damp, changeable weather which followed it.

Boston has not yet been converted to the change desired by the jobbing drug trade on the box and cartage feature, and the New England States are waiting on the Hub to move. The latter believes in charging for cartage but is not so certain that boxes should be treated likewise.

The schedule of Ferdinand Seeger, importer of beef essences, chemicals, and other preparations, at No. 38 Murray street, to Anderson Fowler, filed in the Court of Common Pleas, state liabilities at $36,374 53, nominal assets $60,749, and actual assets $1,000. It appears, however, that all the assets are pledged.

Mr. E. Urquhart of the American Cotton Oil Trust, returned to his office duties on Monday after a month's absence in the South where he inspected all the property of the Trust and made a practical examination of the daily workings of each mill. The result proved highly satisfactory.

It is said that French industries are likely to suffer from a violent disturbance of the commercial relations hitherto existing between France and Italy. The refusal of the government of the latter country to renew the treaty of commerce has provoked a spirit of retaliation, which is likely to lead to a serious issue.

Mr. C. F. de Landero reports to the Department of Public Works regarding his recent exploration of the quicksilver deposits in the 10th Canton of the State of Jalisco, Mexico. He recommends careful work there to ascertain if the deposits can be worked profitably. He thinks that by using diamond drills an economical examination can be made.

The course of general trade in Kansas City is in the main highly satisfactory. Jobbers are having an active time of it, and several of the leading houses are somewhat behind in their orders as the season advances. The prospects for good crops is resulting in more confidence, and country dealers are filling up their stocks more completely than they dared earlier.

At Montreal, Que., March 27, fire broke out at the Dominion Glass Works. The furnace in the melting house burst and set the whole building in a blaze. The building was erected eighteen months ago at a cost of $125,000. The furnaces and melting house were destroyed. The damage is between $35,000 and $40,000, covered by insurance in twelve companies.

President Cleveland has requested Congress to legislate French and German hog products from this country, on account of the prevalence of hog diseases abroad. Not deeming the law of 1878 adequate, he asks the passage of an act authorizing him to stop importation in these cases and in future cases where prudence and the protection of the public health may require.

The glass manufacturers have a tariff committee in Washington looking after their interests. Messrs. J. A. Chambers, of Pittsburg, and Thomas Catlin, of Illinois, represent the window glass branch and Messrs. William Brookfield, of New York, and John P. Whitney, of Philadelphia, the hollow ware branch. Mr. F. L. Bodine is the chairman and represents both interests.

Conversations held by a Washington correspondent with various members of the House Committee on Manufactures which has the subject of Trusts in charge indicate that no agreement has been approached and that the diversity of opinion and theory is very great. With the exception or one or two members, there appears to be no sentiment in favor of legislation to regulate Trusts.

Messrs. Runkel Bros., of this city, are making a specialty of their chocolate essence, prepared for the use of soda water syrups. It is entirely free of oil and is claimed to be the strongest, best flavored and most economical preparation of chocolate manufactured. The essence will not sour when made up as a syrup, and is warranted to keep in any climate. See their advertisement on another page.

Mr. Daniel Myers, of Cleveland, returned home last Thursday after awakening fresh interest in the box and cartage question, but without accomplishing the desired result. Still, he entertains a strong hope that New York will follow other States in restoring the charge. Mr. Myers is very enthusiastic in the labor of love, and during his short stay here he covered considerable territory.

A meeting of the stockholders of Meyer Brothers' Drug Company will be held at the office of said company at the northeast corner of Fifth and Washington streets, in Kansas City, Mo., Monday, June 4th, 1888, at 10 o'clock A. M., for the purpose of voting on a proposition, directed to be submitted, to increase the capital stock of said corporation from its present amount, $175,000, to 450,000.

English merchants are watching with great interest the development and results of the recently discovered process of recovering sulphur from the waste of alkali works. If, as is claimed, the sulphur can be reclaimed in a perfectly pure state, at a small cost, these English merchants believe they will be able to take the Indian trade away from the French refiners, and supplant the Germans and Italians in the Canadian markets.

Superintendent Bell, of the Foreign Mails office, has issued an order directing that all European mail matter, and matter from the eastern section of the United States destined to Mexico, shall hereafter be sent by way of Eagle Pass, instead of El Paso as heretofore. This action, it is said, will lessen the time of transit to Mexico from 24 to 30 hours, and reduce the time from New York to Mexico to about six and a half days. The order goes into immediate effect.

Mr. William H. Hall of the firm of Hall & Ruckel, presided at a meeting of New York drug jobbers, which was held in the office of Mr. Chas. N. Crittenton last Wednesday to consider the restoration of charges on boxes and cartage. There was a full representation of the trade except one house, and definite action had to be postponed until the absent firm was heard from. It was understood, however, that charges would be restored if the house referred to would consent to the agreement.

The tariff bill formulated by the Ways and Means Committee is now before the House. This committee held a meeting before the House assembled on Monday, and made some important changes in the bill. These related chiefly to the sugar schedule. In substance the committee left the classification and standard just as they were under the present law, and made a 20 per cent horizontal reduction. The provision in the bill relating to drawbacks was stricken out, making a difference of about five or six millions in the revenue.

The bill introduced into the House of Representatives by Mr. Farquhar, of New York, is progressing favorably through the Commerce Committee. It provides "that residents of each State and Territory may, within the other States and Territories and within the District of Columbia, and residents of the District of Columbia may within the States and Territories, solicit from dealers or merchants orders for goods and merchandise, and nurserymen may solicit from any one orders for nursery stock, by sample, catalogue, card, price list, description, or other representation, without payment of any license or mercantile tax."

Bids were opened at the U. S. Signal Office on the 27th ult. for obliterating fluid, oil, etc., as follows: Cyclostyle Company, 200 bottles obliterating fluid, quality 1, 90c each; 200 bottles obliterating fluid, quality 2, 70c each; 200 bottles lubricating oil, quality 1, 40c each; 200 bottles lubricating oil, quality 2, 30c each. J. F. Paret, 200 bottles obliterating fluid, quality 1, 75c each; 200 bottles obliterating fluid, quality 2, 45c each; 200 bottles lubricating oil, quality 1, 40c each; 200 bottles lubricating oil, quality 2, 23c each. The award was made to the Cyclostyle Company for lubricating oil at 30c per bottle. No award was made for obliterating fluid.

A London paper speaking of the trade in borax says that the Americans continue to buy Californian borax there and have just paid £31 per ton f o b. The interesting question to the holders over there, seems to be how much more the Yankees will pay, but our contemporary thinks that a far more important question is "what effect will all this buying have upon the English makers?" For some time past the imports of borax from California into England have amounted to over 2,000 tons per annum, and as this has come to an end the gap has to be filled up, and the general opinion is that the process will cause a gradual advance in prices.

We call attention to Mr. Geo. Lueders' advertisemant on page 36. Mr. Lueders has built up a large and still increasing trade since he established himself in this country only three years ago. He is among the largest importers of perfumery materials. The imports of pomades for his New York stock were, according to the import list, very nearly 80,000 lbs since October 15 last. This figure does not include the pomades shipped direct to his customers. He is sole agent for Messrs. Hein & Co.'s Oil of Mustard (artificial), which is now used almost exclusively. The patent for manufacturing this oil is owned only by Heine & Co. and another firm in the north of Germany.

Important alterations are reported to have been made in the regulations affecting the importation of pharmaceutical articles into Japan. Hitherto all medicinal drugs and preparations brought into that country have been subject to examination by the Japanese Government, and, if found to answer the tests were stamped with an official seal as "fit for medical use." Japanese subjects were not allowed to sell any articles except those bearing that seal, and all others were therefore practically unsaleable. This regulation has now been abolished, and in future all preparations made according to the Japanese Pharmacopœia will receive the official seal, while upon all other pharmaceutical preparations it will be merely stated according to what official formula they have been prepared.

The Treasury Department has received the report of the conference of appraisers which convened in New York on the second Monday in March. The report will be issued in printed form. The March conference was the fourth of the quarterly series and the last for which provision has been made. To continue these customs conferences an additional appropriation will be required, and it is believed that Congress will make an increased appropriation for the purpose of allowing more frequent conferences, or the attendance of a larger number of appraisers. In the report just submitted, the appraisers claim that the conferences have been productive of important beneficial results, and that they should be continued and attended by the appraisers of as many ports as possible. In the event of the passage of a tariff bill, it is suggested that a conference of the appraisers of all the important ports should be held in advance of the time when the new tariff provisions become operative.

At the lard hearing in Washington Mr. Carl Dreier said that the most economical means of carrying the crude cottonseed oil from the South was in iron tanks. His firm owned some tanks, but during the oil season chartered others. They went north will oil and went south empty. The cars chartered were absolutely controlled by his firm. In response to the chairman, he stated that while he could speak with personal knowledge only for his own firm, he thought that the testimony given before the Interstate Commerce Commission relative to the use of kerosene tanks for the transportation of cottonseed oil was based on defective information. In conclusion witness gave the committee information as to the use of cottonseed oil abroad, declaring it to be better than the average olive oil; and he impressed upon the committee the benefit which would accrue to the American trade in hog products abroad by the establishment of a rigid system of inspection in the slaughter houses of the country.

PETROLEUM NOTES.

The oil tank ship Andromeda, which struck near Great Yarmouth, England, on March 15 while bound from Bremen, has broken up She has been in the bulk oil trade but a few years.

The United States Consul at Calcutta reports to the State Department that the Indian Government has passed a law imposing a specific duty on petroleum of six pie, or a half anna (about 1¼ cents) per gallon.

It is said that the efforts of Russian dealers to exclude American petroleum from Russia have been successful, and that none was imported into that country last year, whereas Russia exported 6,000,000 gallons.

It is believed that the oil pipe line from Lima, O., to Chicago, Ill., covering 210 miles, will be in operation in two months. The pipe is of the 6 and 8 inch variety. The capacity of the line will be 200,000 barrels a day.

Excitement prevails at Mount Morris, Greene County, where a good flow of oil has been struck in the Alexander well on the D. L. Donley farm. The strike was made at a depth of 1,750 feet in the Big Injun sand. The oil spurted to the top of the derrick.

John Summers, well known in Pittsburg and Oil City as an oil broker, and first as an operator in the Pithold field, was taken to Warren State hospital last week for treatment. Summers was driven mad by the whirl and excitement of the bull ring. He looks like his former self in many ways, but has lost his portly form and pleasant face.

Mr. S. C. T. Dodd, solicitor of the Standard Oil Trust, has written a pamphlet on Combinations; Their Uses and Abuses, with a history of the Standard Oil Trust. The argument of Mr. Dodd is a fair and clear presentation of incontrovertible facts, and will no doubt be accepted as authoritatively answering most of the questions which have been so frequently propounded in she public prints.

A report from Louisville says that representatives of the various railroads were in session there last week to take concerted with reference to rates for tank and barrel oil, in view of the recent decision of the Interstate Commission. The roads represented are the Cincinnati Southern, St. Louis, Iron Mountain & Southern, Louisville & Nashville, Mobile & Ohio, Louisville, New Orleans & Texas, and the Illinois Central.

The report of the coroner's jury in the case of the explosion of the boiler of the petroleum burning steamer Julia at South Vallejo, Cal., February 27, whereby the vessel was wrecked and seventeen lives lost, finds that the boilers were not sufficiently strong to carry the amount of steam registered, and that the United States inspector of boilers was careless and negligent in not making a proper examination of the thickness of them. The fuel used was not responsible for the explosion, as has been asserted.

It is rumored, says the *Ironmonger*, that the Rothschilds syndicate have made arrangements to send 500,000 barrels of oil during the next twelve months to Lane & Macandrew, London, who have already chartered two tank steamers, and have bought a third for the purpose of carrying this oil, and are about ordering two more tank steamers, of 3,500 tons of oil capacity each, in connection with this arrangement. The oil will, it is said, be far superior to any other oil refined in Russia; and Lane & Macandrew, for the purpose of carrying on this trade in England, have already secured extensive tank storage for working both the London and Liverpool centers.

The tests made of Lima oil for fuel have demonstrated, says a correspondent of the Pittsburg *Times*, that it can be used successfully against coal for manufacturing purposes. The Standard Oil Company have been constantly making experiments, and for nine months a corps of men have been engaged in introducing Lima crude as fuel, mostly for manufacturing purposes, and it is stated that the company is now furnishing manufacturing establishments in 217 cities, covering 20 states and territories. Many hotels use it and it is likewise in use in some private houses. It is also stated that many of the rolling-mills in Chicago and St. Louis use nothing but Lima crude for fuel.

Last week the members of the Southeastern Gas Company of Ohio witnessed the opening of the company's No. 1 gas well, seven miles north of Cambridge. The well registered 480 pounds pressure in 1,081 feet, with 608 feet of Pittsburg gas rock. The same day their No. 2, a mile east, was opened, showing the same pressure. The company has a capital stock of $4,000,000, owned by Baltimore, Washington

(D. C.) and New York capitalists. It has 5,000 acres of territory. Thus far two wells have been drilled with fine oil showing, and others will be drilled. The company proposes to furnish Zanesville, and perhaps Columbus, with gas, the former being twenty-eight and the latter sixty-five miles from the wells. With this lucky strike Cambridge is destined to become one of Ohio's manufacturing cities.

On Fuller's brook six miles northwest of Bradford. Marion Leasure and others were to start drilling a well, a rig having been built where the boiler, engine and other machinery had been moved from a well just completed. During the night some one is supposed to have put a quantity of nitro glycerine under the derrick, under the engine and in the boiler, firing them with a fuse. The charges must have been very heavy as houses miles away were shaken as though by an earthquake shock. The drilling outfit was torn into innumerable fragments and scattered over several acres, while trees in the neighborhood looked as if torn by shot and shell. Mr. Leasure refused to join the shutdown movement, although repeatedly urged to do so. Members of the Producers' Protective Association deny any connection with the affair. It is thought to have been the work of individuals indignant at Mr. Leasure's determination to conduct his business as best suited his interests, but to remove suspicion from the P. P. A., that body should do something more than simply deny responsibility.

OBITUARY.

GEO. B. DOUGLASS.

The death of George B. Douglass was announced last week. Mr. Douglass was at one time President of the Mercantile Exchange and was also a member of the Produce Exchange and the Boston Chamber of Commerce. He was born in Scotland sixty years ago and came to this country in 1841. He entered the employ of the old firm of T. B. White & Co., and in 1857 formed a copartnership with Mr. White's son James. He had been in active business all his life, and some fifteen or sixteen years ago practically controlled the hop trade of this country. He died of heart disease. The members of the Mercantile Exchange and Produce Exchange adopted resolutions of respect.

CORRESPONDENCE.

The Ohio, Kentucky and Indiana Exchange.

COLUMBUS, O., March 27, 1888.

Editor OIL, PAINT AND DRUG REPORTER:

Your telegram in reference to the Ohio, Kentucky and Indiana Exchange meeting last Friday, came to hand. The same was read before the meeting in order to know whether it was the desire of those in attendance to have the proceedings of the meeting published. They thought best that I should not give them out for publication, as the matters under consideration interested solely the wholesalers of this section and might prejudice some of our interests with the retailers. There were present the following gentlemen:

Mr. Kelly, of Geo. A. Kelly & Co.; Mr. Hall, of Benton, Myers & Co.; Mr. Cobb, of Strong, Cobb & Co.; Mr. Schmitt, of Keefer & Co.; Mr. Lloyd, of Lloyd Bros.; Mr. Calvert, of C. P. Calvert & Co.; Messrs. Orr, Brown & Price; Mr. Kline, of Smith, Kline & Co.; Messrs. Walding and Kinnan, of Walding, Kinnan & Marving; Mr. Rauchfuss, of Otto Rauchfuss & Co.; Mr. Braun of H. Braun, Sons & Co.; representatives from Runkle & Burtner, Daniel Stewart & Co., Hale, Justice & Co. and Louisville, Ky.; Mr. Kline, of Smith, Kline & Co.; and the Kauffman-Lattimer Co.

After holding an all day session, the meeting adjourned at 1:30 A. M., to meet at Cleveland May 3d. GEO. W. LATTIMER, Sec.

CHICAGO LETTER.

Special correspondence of the REPORTER.

CHICAGO, March 31, 1888.

On this, the last day of the first month of spring, it would be a pleasing task to chronicle either an advance in the price of linseed oil or an improvement in demand. The past week, however, has witnessed neither. Prices remain unchanged and the inquiry is very light. Far less oil has changed hands this month than during March, 1887, but this fact may be easily accounted for. In the first place, futures had been more freely sold last year than this, or, in other words, what may be called the anticipatory demand had early contracted for its wants. Besides this, the comparatively early advent of genuine spring weather last year had not a little to do with stimulating at once the needs and the orders of consumptive buyers. No one here, however, connected in any way with what (for the want of a better term) may be called the "holding" interest cherishes any gloomy anticipations as to the future. That the necessary consumption will still go forward is reasonably certain, and, however long delayed, crushers and jobbers constantly look forward to the arrival of the demand which, they say, is ultimately bound to come. Were their faith in the future less, offerings would be larger and more numerous; the day when oil was, metaphorically speaking, hawked about and samples wer thrust under the noses of wished-for-buyers has become a mere memory. Stocks of oil in the west are not accumulating to any extent which is likely to jeopardize the stability of prices, and even a normal demand will readily absorb all the oil in sight and, like Oliver Twist, ask for more.

The dulness in cake still continues, from $20 to $20 50 net here, being about the market price. The accumulation of stocks is not gratifying to holders, but at the same time there is no disposition to sacrifice it. With the opening of navigation, it is thought, will come greater activity, as the cost to foreign buyers will be thereby materially reduced.

FLAXSEED.

The number of cars inspected in this week has been 81, or 43 more than last week; of these 57 have been classed as No. 1, 23 as rejected and one as "no grade." The figures given by the Secretary of the Board of Trade show receipts of 16,010 bushels, as against 20,946 one week ago and 62,304 during the corresponding week of last year. A comparison of shipments based on figures emanating from the same source shows 5,132 bushels to have been sent forward this week, as against 11,873 a week ago and 89,244 during the same week in 1886. The visible supply of seed has not materially altered. On last Monday there were in store in public elevators 182,069 bushels, a decrease of 12,506 bushels from last week, while a year ago the amount here, including seed afloat, was 358,461 bushels, a decrease in twelve months of 176,392 bushels.

Of course, it is too early to speculate as to next year's crop; at the same time, however, one hears some conjecture as to the acreage likely to be sown. The high prices which have ruled, for many months would, it is thought, naturally tend to stimulate flax culture among Northwestern farmers during the coming season. This belief is apparently justified by the fact that there seems to be a tolerably brisk demand for seed for sowing.

Firmness continues to be the most pronounced feature of the market. Cash seed opened on Monday at $1 45, and closed to-day at the same figures, after having touched $1 41 on Thursday, when offerings were rather liberal. Sales on the floor of 'Change have aggregated 25 cars of No. 1, 2 of rejected, and 1 of no grade. The market in futures has been quiet, and a somewhat unexpected weakness has been developed. On Monday and Tuesday May seed was nominally $1 47; on Wednesday it fell off half a cent, and on Thursday a sale of 15,000 barrels was negotiated at $1 44. On Friday there was no session of the Board, and to-day $1 44 was the best bid, but no sales were made. It looks as though the "short" element was beginning to manifest some anxiety to "cover," and renewed attempts to break the market on May seed would not be occasion for much surprise.

A feeling of timidity on the part of buyers is still noticeable and there seems to be an undercurrent of unsettled feeling. The allegations in some of the local papers, however, as to tha existence of a "syndicate" to "bull seed," may be characterized as unfounded.

OILS.

Lard oil is not proving a perennial source of joy to manufacturers. While nominally the market remains at about the figures named last week, there is, as a matter of fact, a tendency toward lower prices. While more oil is going East, less is being exported. A gentleman closely connected with the lard interests, and who has for years made the market in lard and lard oil a subject of special study and reflection, assured me to-day that year by year, month by month, and even week by week, refiners are becoming more and more thoroughly convinced of the ultimate futility of any hope of manufacturing lard oil at a pecuniary profit. It seems gradually, but no less surely, approaching the position of a by-product. Mineral oil appears to be taking its place as a lubricant, and the margin of profit to refiners at to-day's prices is so small as to afford no special temptation to cut. Some of the western producers deplore the situation and seek to ascertain the cause for a condition of affairs which is, to say the least, unsatisfactory. Apart from competition and the substitution of mineral oil, however, none of the interested parties pretends to offer any explanation.

Oleo attracts more attention than a week ago; cablegrams from Holland report sales in Dutch markets of about 2,400 tierces, which figures represent a moderately active trade. Exportation from this point promptly sympathized, and of the amount carried out by to-day's steamers a very considerable per centage left Chicago. To illustrate: of the 5,000 tierces carried on one steamer nearly 50 per cent were consigned to one firm, by the branch house here. Prices remain about the same for every grade except "extra," which is a shade lower. Stocks in the west are rather "light," and production is by no means excessive. One thing, however, may be set down as certain, with tallow at present prices there will be comparatively little temptation to place upon the market inferior grades of oleo.

PAINTS.

If it were not indecorous to paraphrase the policemens chorus in the "Pirates of Penzane," one might be tempted to say that a "jobber's lot was not a happy one." Dealers have an abundance of time in which to compare the sales of this month and those of March, 1887. To state the case mildly, the result of the comparison is not calculated to fill the breast of the average dealer with joy. All sorts of explanations are offered. The weather, the "Q. strike," the high price of linseed oil,—all these and more, are suggested as means of a decadence in demand which has certainly not been anticipated by jobbers. Hope still remains, however, and it is not impossible that an improved demand in April may compensate for a dullness in March. From salesmen who have carefully canvassed the western States come reports which on their face appear incredible. It is said that consumers at interior points are able to buy white lead, in oil, at about one-half a cent less per pound than the same goods are sold to dealers here. Of course, nobody here believes any such statement, and yet the fact that the same stories are being told by "drummers" at different points at the same time is, to say the least, singular. If business were brisk, no trifle of this character would attract much attention; but while twirling their thumbs dealers in paints (in a small way) find an abundance of leisure in which to discuss the actual value of white lead and the putative price of Paris green.

DRUGS.

So far as the general price list is concerned, the week has witnessed no change in any staple. Quietude and inactivity still characterise quinine, and if rumor be credited sellers are more numerous and more anxious than buyers. As regards opium—no one knows. I have heard it said by certain wholesalers that they would be afraid to make an offer for fear that it might be accepted, and on the other hand there are local dealers who regard the possession of moderate stocks very much in the light of a prize drawn in a lottery. When medical practitioners in Western country districts find themselves unable to make a satisfactory diagnosis, they are apt to pronounce the disease malaria. The uncertainty of the practitioner finds its parallel to-day in the Chicago jobber of drugs, to whom the situation in opium presents a conundrum which he is rather slow in attempting to solve. Trade is reported as satisfactory in all quarters, and the increase in the volume of business as compared with last year is, to say the least, normal. CALUMET.

CUSTOMS DECISIONS.

The assessment by collector at New York at 25 per cent ad valorem on so-called polishing powder returned as a color is affirmed on the appeal of R. D. Jackson & Co., per Auranis, Aug. 31, 1886.

The assessment by collector at New York at 35 per cent ad valorem on so-called alizarine blue, alizarine orange, coerulein and gallein, returned as coal tar color, is affirmed, on the appeal of Piokhardt & Kuttroff, per Edam, Sept. 19 and April 6, 1887. (March 15.)

Certain Chinese pills, with special advertisements and circulars accompanying each box recommending the pills as specifics or remedies for diseases affecting the human body, most of the pills also having stamped upon them what is appparently a trade-mark are held to be dutiable at the rate of 50 per cent ad valorem, under the provision in schedule A (T. I., 99) for "proprietary preparations." (Letter to collector of customs at San Francisco.

MISCELLANEOUS.

The Paint, Oil and Varnish Club.

The approaching meeting and dinner of the Paint, Oil and Varnish Club promises to be the most interesting of the series of similar events. The regular business of the meeting will embrace the consideration and discussion of several matters of particular importance to the members and the trade at large. Several prominent public men have been invited to attend, and have signified their intention of doing so, among them being Mr. Erastus Wimar, Hon. Ashbel P. Fitch, and Gen. F. B. Spinola. Several officers and members of the Philadelphia Paint and Oil Club and other invited guests may also be present. A report from the tariff committee is expected and the question of tare credits will be an important subject of discussion. The musical program will be filled out by Mr. Richard Arnold, the noted amateur violinist, and Messrs. Spooner, Rieger, Knapp, and Pierce, the "Twilight" quartette, in addition to the orchestral pieces. The date of the meeting is Thursday, April 12th, and it will be held as usual at the Down-Town Club, beginning promptly at 6 P. M.

Mound City Paint and Color Co.

A revised price list has been sent out by the Mound City Paint and Color Co, of St. Louis for their several specialties, which include ready mixed carriage paints, combined filler and stain, aurora buggy paints, wagon and implement paints and improved kalsomine or wall finish. The latter is tempered, sized and tinted and is furnished in nine shades and brilliant white. It is guaranteed not to spoil after mixing, peel or rub off; five pounds cover 400 square feet and is warranted to be equal to any wall finish made. The buggy paints are made from durable colors and finely ground in good coach varnish, producing a fine, hard glossy finish. The products of this well known company are well established in the trade and it is hardly necessary to call attention to their merits,

New Business Enterprises.

The American Asphalt Company, of Utah, are putting up machinery to reduce the crude asphaltum and convert it into a number of forms for the market.

The old black lead or plumbago mine at Nelson, N. H., has been bought by the Minnesota Plumbago Company, which will develop and work it. It has been profitably worked on a small scale in the past. The company is capitalized at $1,000,000, and consists mostly of Minneapolis men and western money.

Within the last few months immense deposits of kaolin have been found in several parts of South Carolina, some being quite fine and free from grit, but most of it requiring washing to remove foreign matter. The people are wild about it, and the old sand hills worth only $1 or $2 per acre have leaped up to $40, $50 and $100. Several companies have been formed to manufacture and ship the kaolin, while others are organizing.

Glue Manufacturers and the Tariff.

A committee, appointed by the United States Glue Manufacturers' Association, has prepared a petition to be sent to Congress, requesting that the present rates of duty on the imports of "gelatine and all similar preparations," "glue," and "fish glue or isinglass," be retained, and that these articles be not added to the free list, as is proposed by the bill now before the Ways and Means Committee for consideration.

The petition reads as follows: "There is probably no industry in this country in which the cost of manufacturing plant bears a larger proportion to the value of products than in the making of glue. This plant is useless for any other purpose, and we believe there is but one instance where a factory has changed owners during the last twenty years and brought half its cost.

Largely for the above reason, the glue-making industry cannot be carried on in this country, if subjected to a fluctuating policy on the part of Congress or exposed to the vicissitudes of free importation. Although a large proportion of the firms engaged during the past thirty years have failed, or been compelled to go out of the business, it has been fairly prosperous for each period of ten years to those who thoroughly understood their business and who have been favorably situated in all respects. The steady policy pursued by our government has given us a feeling of security which has caused us to expend large amounts in the improvements of our processes, and the steady and healthy competition thus carried on has so cheapened production that our prices are now about 25 per cent less than they were even in 1860, when wages were less than two-thirds of what we are now paying.

"The glue manufacturers do not ask that a higher duty should be put upon imports than would equalize the difference between wages paid here and those paid in Europe. This moderate rate of duty it has always been the policy of the government to impose. Under the tariff of 1842 the duty on glue was five cents per pound, and the labor employed cost us not to exceed $5.50 a week. The tariff of 1846 made the duty 20 per cent., with wages no higher than before; and even under the low tariff of 1857 to 1861 the duty was 15 per cent., with wages not over $6 a week. In 1861 the rate was made 20 per cent., and has since been the same.

"The quality of labor employed in our factories is almost entirely of the unskilled class, and for this we are paying from $9 to $12 a week. The rates for the same class of labor in England are from 18s to 20s per week, and very much less in France and Germany. These figures are for the labor of men in Europe, while the girls and women employed there receive still less. There is no female labor employed in making glue in this country, and the hours of labor are also very much shorter here than on the other side.

"To equalize the difference between foreign and domestic labor, a duty should be imposed of at least 25 per cent. The Government of Canada imposes a duty on glue of 3c per pound while the average rate on that brought into this country is less than 2c.

"Our business has been done for some time with an exceedingly close margin for profit—and in many cases at an absolute loss—and any reduction in the present rates of duty imposed would result in the destruction of this industry in the United States, the loss of immense sums of money now invested in buildings and fixtures, which are useless for any other purpose, and would throw out of employment a very large number of men.

"Glue stock of all descriptions is now admitted free of duty, so we can look for no relief from this source.

"For your information in regard to the imports of foreign glue and gelatine for the past twenty years, we enclose copy of a document received from the Bureau of Statistics of the United States Treasury Department, under date of December 19th, 1887.

"We desire to especially call your attention to the fact that glue is made from what would be waste material if not utilized by us. It would be hard to find any industry, with the exception of agriculture, which more truly creates useful products out of waste material than does the manufacturing of glue.

"We have endeavored to procure the statistics of our trade to present to you fully, but in the time at our disposal it has not been possi-

ble to get them accurately in all cases. Estimating the matter in a very conservative way, we would say that there are now ninety factories in active operation in nineteen States, actually employing not less that $6,000,000 in business, and producing glue to the amount of at least 37,000,000 pounds a year.

"In these days of trusts and combinations the constitution of the United States Glue Manufacturers' Association says, in article 2: 'This association is formed for the purpose of promoting the common interest of its members, and to aid in producing a more enlarged and friendly intercourse between them.' And in article 13: 'There shall be no attempt on the part of this association to form any combination on prices of glue or glue stock,' and there is nothing in our constitution to interfere with these provisions.

"It would be very difficult for any one not engaged in our business to form any full conception of the great loss and disturbance that would result to all those engaged in the manufacturing of glue or the production of glue stock, if the present rate of duties on our products were reduced. We feel that your only purpose in legislation is to benefit the people, and at the same time do nothing to destroy existing industries; we would, therefore, earnestly request that the duties on gelatine, glue, fish glue and isinglass be allowed to remain as they are now."

The following is the statement showing the quantity, value, rate of duty, and amount of duty received on imports into the United States of gelatine and glue, from 1868 to 1887, inclusive:

GELATINE AND ALL SIMILAR PREPARATIONS, N. E. S.*

Years.	Quantity, Pounds.	Value, Dollars.	Amount of duty received.
1868		32,293 00	11,302 55
1869		45,375 00	15,881 25
1870		33,198 00	11,619 30
1871		55,095 00	19,283 25
1872		57,175 00	20,011 25
1873	147,670	74,836 00	26,189 10
1874	155,233	90,071 00	31,524 85
1875	158,746	99,913 00	34,976 55
1886	138,496	77 009 00	26,953 15
1877	165,172	90,971 80	31,840 13
1878	173,330	91,120 00	31,892 00
1879	206,854	99,693 93	34,892 53
1880	314,261	130,155 00	45,554 25
1881	379,835	141,261 32	49,441 46
1882	476,011	158,461 99	55,461 69
1883	475,037	164,154 91	57,454 22
1894		232,643 04	69,792 91
1885		183,181 83	54,654 55
1886		220,137 00	66,041 10
1887		219,357 95	65,807 39

GLUE COMMON.†

Years.	Quantity. Pounds.	Value. Dollars.	Amount of duty received.
1868		328 168 00	65,633 60
1869		337,807 00	67,561 40
1870		184,542 21	36,908 44
1871	1,578,229	128,528 00	25 705 60
1872	1,702,108	150,641 66	30,128 39
1873	1,328,542	182,573 74	36,514 65
1874	1,148,195	158,069 00	31,613 80
1875	1,747,741	2 6,330 58	45,266 11
1876	1 319,776	156,293 02	31,258 61
1877	1,112,527	131,678 00	26,335 60
1878	1,033,439	125,706 34	25,141 27
1879	1,156,832	122,430 10	24:186 02
1880	2,011,627	280,147 40	56,029 48
1881	1,888,005	243,352 98	48,670 59
1882	3,758,064	414,033 16	82,806 63
1883	4,236,194	450,361 13	90,072 23
1884	4,455,693	451,362 00	90,272 40
1885	3,105,197	327,167 00	65,433 40
1886	4,195,609	433,718 71	86,744 75
1887	5,038,609	479,756 00	95,951 20

The Minority Report on the Glass Schedule.

The minority of the Ways and Means Committee has submitted its report upon the Mills' tariff bill through Mr. McKinley, its author. Commenting upon the changes in the glass schedule proposed by the Mills' bill, the report makes a strong argument in favor of a higher tariff. It says: The duty on cylinder window glass unpolished was subjected to a very considerable reduction by the tariff law of 1883. The bill proposes a still further reduction, which must result in great hardship to the workingmen employed and great loss to the men whose capital is invested. Since the reduction of the tariff of 1883 the imports have steadily increased. The quantity of this kind of foreign glass imported in the fiscal year ending June 30, 1887, is greater than during any like period of our history. In the four years since the act of 1883 went into operation the increased quantity of imports is over 33 per cent, while the revenue thereunder is greater than in the four years prior to the act of 1883 by $1,250,000. These excessive importations have forced American furnaces to remain idle for one-fourth of the original length of the blast, and many men are thereby deprived of their means of livelihood.

The capacity of the American furnace is sufficient for the American consumption, and with proper protection would be able to supply it fully at prices reasonable and just to the consumers and furnish steady employment to labor, keeping at home vast sums of money now sent abroad for foreign glass. The proposed reduction will cripple, if not sacrifice, our home factories, will increase importation, diminish home production, and lessen the demand for home labor. If our factories are to survive under the proposed bill, labor will have to be reduced, we are informed, not less than 50 per cent. Already one-fourth of the window glass now used in this country is of foreign make. The wages in the glass factories of Europe are exceedingly low. In support of this statement Mr. McKinley quotes the paragraph in the letter from Mr. Campbell, which we published last week, relating to the employment of women in the Belgium factories at $2 and $3 per week on work that pays $9 to $12 to men in this country. The report also quotes Mr. Tomlin the president of the Glassworkers' League, as saying, on this point: "If the Mills Bill becomes a law we might as well give up the struggle and go to Germany. In Germany, where the bulk of the imported ware comes from, the workmen work eleven hours a day and seven days a week and earns from $6 to $7 per week. So far from the tariff being lowered, it should be raised 1½ centz per pound in order to enable us to maintain present wages and prevent increased importations."

Regarding the proposed large reduction in the duty on plate glass, Mr. McKinley says.

During the fiscal year ending June 30, 1887, there was imported into the United States a total of 4,074,178 pounds of plate glass, being the largest importation of such glass ever made in a single year. The reduction of 20 per cent. proposed, we are assured by both manufacturers and workmen, will completely paralyze the industry here and open up this market to the foreign factories. Prior to the establishment of plate glass factories in this country our trade was controlled entirely by the foreign producers, in combination with a number of importers here who maintained a monopoly in plate glass, enriching themselves from the profits received from American buyers. This monopoly or combination forced the American consumer to pay from $2 to $2 50 per foot for such glass. Since our factories have been in successful operation, under the fostering care of a protective tariff, the price has been forced down to $1 per foot on an average, a clear saving to Americans of more than one-half. It must not be forgotten that the principal element of cost in this product is labor. It is labor that mines, loads, transports, unloads and uses the coal, the sand, the limestone and fire clay used in making plate glass. It is labor that manufactures the felt, the arsenic, the emery, the copperas and the soda which enter into the composition of plate glass; and it is labor that fires the furnaces, that tends the machinery and finally prepares and forwards the product, and not until such labor in its various stages is paid for on the basis of European labor can the American manufacturer expect to make glass at a corresponding cost.

Mr. McKinley concludes this portion of his report with a table showing that the wages paid to the workers in plate glass factories in the United States are more than double those paid the same class of labor in Belgium, France and Germany, and double those paid in England.

*Rate of duty 35 per cent from 1868 to 1883 inclusive, and 30 per cent to 1887.

†Rate of duty 20 per cent.

The Ptomaines.

From a paper read before the London Chemists' Assistants' Association, March 22, by A. P. Luff, M. B., B.Sc., F.I.C., F.C. S.

The author divided his subject into 5 sections. 1. What are ptomaines? 2. From what substances, and under what conditions, are they formed? 3. What is the chemical constitution of ptomaines, and to what other bodies are they related? 4. What are their properties? and 5 What importance may they assume in the future.

Ptomaines (from the Greek "ptoma" a corpse) were defined as organic alkaloids, and the author did not favor the formation of a second group "leucomaines"—a name which had been proposed to indicate those basic principles secreted in the living body.

Under the second sub-division it was stated that prior to 1866 no evidence had been obtained of the actual existence of ptomaines, though such had been guessed at. In that year, Dupreż found an alkaloid in the liver, and two years later another was extracted from putrid beer. In 1870, Gautier, to whom the development of the subject was mainly due, turned his attention to the isolation of animal alkaloids, and Salmi, an Italian, in a medico-legal examination, extracted an alkaloid which he was unable to identify with any known substance. Then two new bodies were obtained from albumen. With regard to the putrefaction of albumen, the following table showed how it proceeded.

1st Stage.—Products soluble in water, but insoluble in alcohol.

2d Stage.—Products soluble in alcohol but uncrystallizable.

3d Stage.—Crystallizable products, among which are ptomaines.

In examining the alkaloids extracted from the excretions in disease, it was found that they increased in proportion to the intensity of the disease, and Gautier subsequently demonstrated that all physiological and tissue changes in health, as in disease, were attended by the formation of ptomaines.

There could be no doubt that albumen was the source of these compounds, and "vital force" was referred to as the probable motive power in their formation, as even in corpses the presence of vital micro-organisms was an important factor.

Animal alkaloids are mainly of two classes—oxygenous leucomaines—which were generally solid, and ptomaines produced by the decomposition of albumen and generally liquid. The names and the substances from which these have been derived were given as follows: Oxygenous: Neurine, muscarine, choline and gadanine, obtained from putrid flesh or fish; creatinine, discovered in urine by Liebig and Pettenkopf; pseudoxanthine, sarkine xanthine from flesh and urine; crusocreatinine, xanthocreatinine found in fresh flesh; guanine in normal urine and guano; carnine and betaine in normal human urine; tyrotoxicon in putrescent milk, cheese and cream (the first four were obtained from dead tissues, the remainder had been found in living tissues); non-oxygenous: Collidine and parvoline from putrid mackerel and horse flesh: Unnamed, from putrid fibrine and bullock's blood (these belonged to the pyridine series); hydrocollidine from mackerel and horse flesh; putrescine, neuridine, and cadaverine from human flesh.

The formation of animal alkaloids would explain the genesis of many diseases, and they had been detected in the liver, brain, lungs, spleen and saliva of man. They were eliminated in health by the excretory organs, and destroyed by the oxygen of the blood; but if by abnormal hindrance of the excretory functions, or by production, over power of excretion, or failure of sufficient oxygen, they accumulated, disease ensued.

Touching their chemical constitution, it was pointed out that they seemed to be of simpler form than the vegetable alkaloids, but the idea that they were distinct classes of bases was not favored, since some of them were common to both kingdoms. In illustration, muscarine (from the fly agaric), betaine (from beetroot), guanine and sarkine (recently detected in the young shoots of plane, pine, etc.) were instanced.

In dealing with the fourth question, the powerful poisonous characters of ptomeines were alluded to, with many similarities in chemical behavior to the vegetable alkaloids. Many of them gave color reactions with concentrated mineral acids, and they were all powerful reducing agents. Added to a mixed solution of ferric chloride and ferridcyanide of potassium, "Turnbull's blue" was immediately thrown down. This reaction was thought to be characteristic, but since muscarine and apomorphine (vegetable bases) gave it also, it was evidently not so. The author did not think it at all probable that in a medico-legal examination there would be any liability to confusion between ptomaines and alkaloids, the former always occurring in minute quantities.

Lastly, these bodies were probably concerned in the genesis of contagious diseases. Bacteriology has not explained why microorganisms set up diseases, but it was now believed that they gave rise to the formation of various and powerful alkaloids. Experiments and facts could be partially given in confirmation of this view. Thus a body identical in behavior, had been obtained from the fæces of the choleraic patients and cultivations of the Koch bacillus. From the typhoid bacillus also "typhotoxine" had been isolated, and the same body had been in Manchester recently detected in the organs of a victim to the typhoid fever.

The paper concluded by referring to the time when these poisons would be actually identified and the treatment of contagious diseases especially simplified.

In the discussion, Messrs. Baxter, Fawcett, Stark, Millard, MacDiarmid and Crisp took part.

Mr. Luff, in answering, said that no medico-legal expert would pronounce a poisonous alkaloid present from a mere physiological test; that the formation of ptomaines probably began as soon as cadaveric decomposition sets in; and gave the following outline process for their separation: The animal matter is minced up, extracted with alcohol slightly acidulated with tartaric acid (mineral acids decomposing the bodies sought) by maceration and percolation; collect the percolate, distil off the spirit at a temperature not exceeding 65 deg. C., mix the extract with water, filter, render alkaline with carbonate of soda (not stronger alkalies for reason given above), and shake with ether; separate the ethereal solution, add a weak acid whereby the salts precipitated and were separated by fractional precipitation with platinum perchloride or by crystallization.

Petroleum Transportation.

An exchange, in speaking of the new tank steamer Chester, which sailed from this port last week with a cargo of 1,500,000 gallons of petroleum for Rotterdam, remarks that although only about one year old, the new system of shipping refined petroleum in bulk by the use of specially constructed tank-steamers has made rapid strides in favor of the shippers, and at the present writing eight substantially built vessels of this description are engaged in the trade, while an equal number are in actual process of construction.

The following tank steamships will run to this port during the coming summer: Glückauf, 950,000 gallons; Voorwarts, 950,000 gallons; Minister Maybach, 1,000,000 gallons; Wilkommem, 1,400,000 gallons; Hans and Kurts, 900,000 gallons; Ocean, 1,110,000 gallons; Hafis, 680,000 gallons, and the Chester, 1,500,000 gallons. The majority of the above-noted steamships are sailed under the German flag while two float British colors, and one the tri-color of France. All of the vessels were built either at Newcastle, England, or Grenock, Scotland, where this form of maritime architecture has been given special and careful attention during the past few months. Of the ships now being built, three are for German, two for French, two for English, and one for American account. The latter vessel—a small one designed to carry only 4,000 bbls—is being constructed at Chester, Pa., on account of the Standard Oil Company, and will be used as a coaster between New York and Boston. The contest for transportation popularity between this system of steam carriage of oil in the bulk and sail carriage in barrels and cases has now assumed actual, if not formidable proportions, as can readily be inferred from the rapid augmentation of the steam service as noted above; but as yet only a small per cent of the aggregate oil shipment is handled in the new way.

It is the general feeling of the trade, that the system of bulk carriage by steamship must prevail, and that its general adoption is only delayed until such a time as foreign facilities for inland bulk delivery shall have improved to the point where the consumer throughout Europe can be reached by means either of pipe lines or oil cars, into which the oil can be pumped from the tank vessels and delivered in the same way at central stations distributed throughout the interior. As the conditions exist at present, in the majority of shipments it does not pay to ship from this country in bulk only to pack in barrels and cases on the other side, where lumber is high and the work of cooperage is absolutely necessary in order to accomplish delivery at interior points.

The average time of trip by steam is 16 days, while the average cargo is 20,000 barrels in bulk, and the work of loading requires about four days. The average time of trip by sailing vessel is 45 days, the average cargo 12,000 barrels and the average time of loading 12 working days.

The loading of tank vessels is made direct from the storage tanks, from which a six-inch iron pipe extends to side of vessel, and is there met with from six to ten separate sections of rubber hose, each of which section conveys the oil to a separate compartment, and the work of loading is carried on as though through six or ten separate hatchways. It is pumped out by a similar arrangement of pipes and hose.

The only noticeable improvements in tank ship construction are on the score of strength and ballast. In the vessels first constructed, on the return voyage without cargo it became necessary, in order to secure proper ballast, to fill some of the oil compartments with water, which necessitated careful drying, etc., etc., upon arrival at this port. The new structural arrangement does away with this objectionable feature by the introduction of special ballast tanks in the bottom of the vessels. Additional strength is given by the extra bracing of the tank interiors.

Beyond these improvements no new features have been introduced, but other new and substantial developments are promised by the British constructors for the near future.

Meanwhile, the bulk shipments steadily increase in volume, and the opinion of the few has now become the conviction of the many, that the almost universal application of the "bulk shipment" system is merely a question of time, dependent upon the advancement of facilities for bulk delivery throughout European country.

Pouring Oil on the Waters.

The Savannah *News* publishes the following story told by the captain on the schooner Normandy, which arrived at that port recently:

On the morning of March 12, about seventy miles east of Cape Henry, he encountered a northwest gale, which developed into a hurricane, and which lasted for three days. The vessel was hove to five days under a trysail. During the height of the gale the captain poured oil over the waves, which had a quieting effect on the angry seas and was all that saved the vessel from destruction. While lying hove to the vessel lost her main gaff, fore gaff and fore boom, and also her mainsail and foresail, and split her jib. After which the vessel was put before the wind and ran for six hours, when a sea took the long boat from the davits and one of the davits with it. At 7 30 in the morning a heavy sea boarded the vessel from the stern, breaking in the companion way doors and the window shutters, and started her afterhouse, washing away the binnacle, flooding the cabin and carrying away all the ship's small stores. The captain have the vessel to under her storm trysail, and again poured oil over the sides to keep the seas from boarding her. He says that it was the first time that he had ever used oil on the troubled waters, and he well satisfied with the result.

Some Medicated Wines.

Mr. T. Maben, F.C.S., in a communication to the *Chemist and Druggist*, says that his attention was drawn some months ago to a class of preparations which seemed to be held in considerable esteem by medical men, and consequently by the public. He refers to those so-called medicated wines which pass under various names, and are compounded of such ingredients as port or sherry, and meat, malt, iron, quinine, and so on. One particular wine was very frequently prescribed, and he was induced from several considerations to subject it to a somewhat close examination. From this he was led to investigate the character of a number of these wines, and this paper gives the result of a partial examination of seven samples. All of the wines contained meat, six of them malt, two iron, two quinine, and one pepsine. Most of the wines had port as their basis, one of them sherry, while two were evidently mixtures of spirit and water variously colored. He says:

I append a table giving the specific gravity, alcoholic content, total solids, etc., contained in each of the wines, together with those of a "three-shilling port" which I selected for the purpose of comparison.

Specific Gravity.—It will be observed that in every case the specific gravity is high, this being accounted for by the large percentage of solid matter contained in the wines. The port wine residue and specific gravity are much higher than the figures given in the text books; and should wine of this character be made use of in producing these medicated wines, the nature of a large proportion of their residues is at once explained. The figures may in some cases appear contradictory, but the variations may be traced to differences in the character of the residue.

Alcoholic content.—The percentage of alcohol was estimated by Tabarie's method, which though indirect, gives results which closely approximate to the truth, but which have a tendency to be low. It may, therefore, be assumed with confidence that these figures are under rather than over the truth, and it need excite no surprise if we find the inland revenue authorities stepping in, and saying that these wines must not be sold without a license. I hardly think it will be seriously disputed that the medicinal or dietetic value of most of the ingredients of which the wines are composed is not increased to any appreciable extent by the presence of such a large proportion of alcohol; and the fact that all these wines contain from 30 to 40 per cent, of proof spirit is in my opinion very suspicious.

Solid Residue.—This was determined by evaporation on a water bath till weighing at intervals of one hour gave practically constant results. The residue in most cases differed but slightly in appearance from that of the port wine; the proportion of saccharine matter was greater; but otherwise, save in the wines made from sherry or artificially prepared, the difference was not very marked.

Tannin.—Four of the samples gave abundant evidence of tannin, two of them were quite free from this substance, while another showed a doubtful trace. The influence exerted by tannin over substances such as some of those contained in these wines is so great that we cannot afford to ignore it; and, if it can be proved that the presence of excess of tannin is incompatible with that of other constituents we may be in search of the question at once simplifies itself very much. For example, a number of these wines are said to be prepared from Liebig's Extract of Meat, and the question arises, is this extract in whole or in part compatible with tannin? It is, of course, well known that albuminoids proper, such as fibrin and albumen, form insoluble compounds with tannin, and the same is the case with gelatine. But fibrin is not found in commercial extract of meat, and neither should gelatine be, as the latter is in no sense the constituent of flesh. According to Liebig himself, the Fray Bentos extract contains no gelatine, yet a solution of that extract gives a copious precipitate with tannin. This is due not to gelatine, but to other organic bodies, for says Liebig, "extract of meat may, and does, precipitate with tannic acid, even when entirely free from gelatine." One of the most important of the organic constituents of meat is kreatin, and it is probable that excess of tannin precipitates this body entirely. In any case, it is quite certain that the addition of tannin throws downs a precipitate which consists of from 15 to 20 per cent of the extract. Since extract of meat contains nearly 20 per cent water, and about the same proportion of mineral matter, it is obvious that one-third of the organic matter is altogether lost, and that, too, the most valuable part of the extract, as it will in all probability consist of the nitrogenous constituents that may be present. Even if only 1 per cent of extract of meat be added to port wine, a copious deposit takes place, which proves that a large proportion of the organic matter in meat extract cannot, if tannin be present, be held in solution, even if the wine to which it is added exist in this relatively large proportion.

It was thought that these facts might furnish a guide for detecting the presence or absence of extract of meat in the samples under examination; but while the further fact that samples 1, 2, 4 and 7 contained a considerable quantity of tannin was sufficient evidence to my mind that there was present in them none of the constituents of meat precipitable by tannin, it by no means proved that meat extract had not been added. All the samples were tested with tannin solution, with the result that Nos. 3, 5 and 6 gave copious precipitates, while the others gave no precipitate; conversely, all the samples were tested with meat solution, with the result that samples 1, 2, 4 and 7 gave dense precipitates, and Nos. 3, 5 and 6 were unchanged. Notwithstanding this, it is perfectly possible that extract of meat had been added to all the wines, and that in some cases, through the ignorance of the manufacturer of the reactions that took place, some of the most valuable constituents had been thrown down, and left as a worthless deposit—as, indeed, it was—when the wine was sufficiently clear for bottling purposes. These results, therefore, being of no value for quantitative purposes, recourse was had to another method.

Potassic Chloride.—The mineral constituents of meat consist for the most part of phosphate and chloride of potassium, together with other salts in smaller proportion. Liebig's extract of meat contains about 20 per cent. of mineral matter, and the sample with which I have been working gave 7·6 per cent. of potassium chloride. If we can be certain that no hydrochloric acid has been added in order to dissolve quinine, or for any other purpose, we have here a readily available means for ascertaining the quantity of extract of meat that has been added to any sample. I have not attempted to separate or estimate the free acid, but I assume throughout that all the chlorine is derived from meat. This assumption is obviously most favorable to the wine, as it gives us the maximum amount that can by any possibility be present. The chlorine was estimated volumetrically with decinormal silver nitrate, using potassic chromate as an indicator. The red color of the wines, in some cases, obscured the end reaction, so recourse was had to decolorization with animal charcoal. The mean of three estimations has been taken throughout.

Extract of Meat—From these data, therefore, I estimate the quantity of meat, or of meat extract, that has been added to the wine. In some cases a proportion of the organic constituents has undoubtedly been lost; the figures in the table represent the quantity that was originally present. Samples 1, 2 and 4 are all made by one manufacturer; they are the same, except that No. 4 is said to contain iron. Nos. 1 and 4 were obtained through the ordinary trade channels, No. 2 was a sample sent to a medical man. The analytical results indicate that the wines are very uniformly prepared, the variations being extremely small. Sample No. 4 does not contain a trace of iron, and is, in my opinion, in every way identical with Nos. 1 and 2. These three samples contain the remnants, so to speak, of 1 per cent of extract of meat, and on the average each ounce of the wines contains rather less than 2 grains of the soluble organic matter in meat; not a very brilliant achievement certainly! Nos. 3, 5 and 7 gave rather better results, but even in these the quantity of meat is so insignificant that it can be of very little value under any circumstances. No. 5 is a much more satisfactory preparation. According to the label every ounce contains the soluble constituents of 875 grains of beef. If we assume that 34 lbs. of beef give 1 lb. of extract, which is the proportion given by Liebig, my figures indicate that every fluid ounce of the wine represents 566 grains of meat, a difference of only about 1 per cent. Judging from the appearance of the residue, and the percentage and character of the ash, I am quite disposed to believe that the statement on the label, in so far as it relates to the beef, is substantially correct.

Extract of Malt.—The same line of argument adopted in regard to the influence of tannin on extract of meat may be employed in reference to its action on extract of malt. The value of the latter preparation depends very largely on its proteolytic power; in other words, on the proportion of active diastase which it contains. If a solution of malt extract in water be treated with excess of tannin, a whitish gelatinous precipitate is thrown down, and the presumption is that the deposit consists of the nitrogenous elements in the malt combined with tannin. If this deposit be separated by filtration, and the filtrate tested with starch and iodine, some indication ought to be given whether or not the malt is changed for the worse. A solution of malt extract was thus treated, and a portion of the filtrate was tested alongside a similar portion of the solution under identical conditions. It was found that the solution of malt had entirely changed the starch within half an hour, while the starch iodide reaction was unaltered at the end of three hours in the case of the filtrate from the tannin malt solution, showing the entire absence of diastasic power in the latter. From this I infer that wines containing tannin, such as port and sherry, are utterly unsuitable as vehicles for the administration of malt extract, and if malt extract has been added to samples 1, 2, 4 and 7, as from the appearance of the residue I have no doubt it has, it is now in such a condition as to be worthless, in so far as its proteolytic or diastasic power is concerned.

Iron.—Samples 4 and 5 are said, according to the labels, to contain iron. No. 4 contains not a trace, and No. 5 contains a trace, but so small that it could not be estimated. Each ½ oz. is said to contain a grain of iron, but I am within the mark when I say that the entire bottle did not contain half a grain altogether.

Quinine.—Samples 5 and 6 contain quinine, the quantity obtained from No. 5 being very nearly what it is said to contain, viz., half a grain to the ounce.

The conclusions to which I have come regarding these wines are sufficiently indicated throughout these remarks, but I wish specially to emphasize the fact that all the samples contain an altogether unnecessary quantity of alcohol, which, it is feared, may for many patients prove a snare. I have satisfied myself that this is unnecessary, as a wine much stronger in meat even than No. 5 may be satisfactorily prepared without such a large percentage of alcohol. With regard to the other wines, their medicinal and dietetic value is so small—the organic constituents of meat in them ranging, at the very outside, from 2 to 4 grains per fluid oz.—that it is difficult to understand their raison d'etre. The majority of the samples are prepared in such an unscientific manner that whatever virtue they might otherwise have possessed is a sadly diminished quantity.

All the wines contain meat; all except No. 5 contain malt; Nos. 4 and 5 are said to contain iron; Nos. 5 and 6 contain quinine; and No. 7, pepsine.

Sample No.	Specific gravity.	Absolute alcohol by vol., per cent.	Total solids, per cent.	Chlorine as chloride of potassium, per cent.	Extract of meat, per cent.	One fluid ounce of wine contains of meat extractive and salts, in grains.	Tannin.	Iron.	Quinine, per cent.
1	1·024	15·49	12·69	0·069	1·17	4·17	abundant	.....	.....
2	1·024	15·12	12·68	0·060	1·05	3·75	abundant	.....	.....
3	1·026	19·18	13·06	0·118	1·55	5·55	trace?	.....	.....
4	1·024	15·49	12·40	0·063	1·09	3·9	abundant	none	.....
5	1·014	19·45	10·45	0·438	5·76	20·41	none	trace	0·1
6	1·006	8·43	9·06	0·198	2·54	9·51	none	.....	0·2
7	1·016	15·53	10·02	0·134	1·76	6·26	abundant	.....	.....
Port	1·004	19·68	8·56	....	....	....	abundant	.....	.....

Cocaine and its Salts.*

BY B. H. PAUL, PH.D.

The author stated that the quality of commercial salts of cocaine is far from satisfactory although better than when the alkaloid was first used. Recent medical literature shows that there is amongst medical men grave suspicions regarding the alkaloid, this suspicion being based upon the varying physiological results which have been obtained. The author thought that this might be traced to difference in the quality of the cocaine used. He then proceeded to give a resume of Dr. Squibb's experience of commercial cocaine hydrochlorate. Dr. Squibb examined nine brands, and as a result divided them into four groups, viz., two granular and two crystalline, all being really crystalline; but Dr. Paul was of the opinion that this was too liberal a term, only those which are absolutely pure being crystalline. Commercial specimens are frequently amorphous, tests showing them to consist of crystallized cocaine and an amorphous body. The difference in the appearance is not, as Squibb says, "a mere difference in the physical condition." Pure cocaine and its salts readily crystallize. On dissolving a quantity, say 5 or 10 grams, in as much water, and evaporating, the residue crystallizes readily, the white crystal radiating from the center; but an impure salt so treated leaves a yellow and gummy residue. This difference is due to the presence of an amorphous body in the impure salt. What this is the author would not say, but he stuck to his opinion that it is not hygrine, which he considered to be a mythical substance. Whatever this substance may be, it is important to be able to detect it readily. Squibb has proposed a chloroform test; 5 c.c. of chloroform, free from alcohol dissolve 0·4 gram of dry cocaine hydrochlorate, and the more water the hydrochlorate contains the less chloroform is required to dissolve it. For example, 0·4 gram of one specimen required only 0·9 c.c. for its solution. If to the chloroformic solution three times its volume of pure ether be added, Squibb states that the pure cocaine salt is precipitated, the amorphous substance being retained in solution. Dr. Paul, however, did not consider the test very conclusive, as chloroform also dissolves benzoyl-ecgonine and other undesirable contaminants which are precipitated by the ether. He also dissented from Squibb's conclusion that the granulated crystals are equal in value to the pure crystalline variety, and criticised Dr. Squibb's remarks at considerable length. After referring to Dr. Stockman's investigations on amorphous cocaine (which go to show that it is a solution of crystallized cocaine in hygrine), and reiterating his opinion that hygrine is a myth, he proceeded to give an account of experiments with the crude cocaine which comes to this country from South America. This he had found to contain earthy substances in considerable quantity (including calcium carbonate), a waxy substance, and a trace of petroleum. Evidently it is obtained by treating the leaves with lime and dissolving out the alkaloid with petroleum which accounts for the odor of the latter. The amount of alkaloid in this crude cocaine varies from about 80 to 90 per cent. It always contains amorphous alkaloid in variable quantity, one sample containing 85 per cent of total alkaloid contained at least half of that in the amorphous condition. The alkaloid separates from the hydrochloric acid solution of the crude cocaine on addition of ammonia in the form of oily drops, which require as much as one or two day before crystallization sets in. The solution is always milky, and the alkaloid separates in rather a pasty condition whereas the pure salt gives a pulverulant precipitate like ammonia-phosphate of magnesia, which papidly crystallizes. It was found to be exceedingly difficult to purify this cocaine; fractional crystallization was unsatisfactory, but a better result was obtained by dissolving it in strong alcohol and adding water to the solution, whereby the cocaine is obtained in finely divided crystals with little loss. Heat must not be applied in affecting the solution in alcohol, otherwise the cocaine is rapidly decomposed.

The characters which pure cocaine hydrochlorate should possess are as follows: It should be free from color, and should dissolve in water to form a perfectly transparent and colorless solution. It should be free from odor, especially a mousy odor, and the odor of benzoic acid. Also, it should be neutral. Some commercial specimens of the salt are acid to test paper, due, according to Dr. Squibb, to slow decomposition of the salt by the action of the water contained in it, acid being set free; but the author stated that this is not so, and he has heated cocaine hydrochlorate for a time in a sealed tube without decomposition. The most satisfactory test, according to the author, is the ammonia one. Pure cocane hydrochlorate dissolved in water when treated with solution of ammonia yields a precipitate which rapidly becomes crystalline, and amounts to 89 per cent by weight of the salt. It has been stated in books that this precipitate is soluble in excess of ammonia, but this is not so. The precipitate disappears on standing owing to decomposition, the loss of a precipitate in 18 hours only amounting in one case to 3 per cent. The following are the results of the examination of a dozen commercial specimens by means of the ammonia test:

	Water Per cent.	Cocaine Per cent.		Water Per cent.	Cocaine Per cent
1.	0·9	85·6	7.	0·43	81·04
2.	0·5	84·3	8.	9·47	71·9
3.	...	84·0	9.	2·0	78·6
4.	1·0	83·6	10.	0·57	78·21
5.	0·43	82·6	11.	2·39	73·4
6.	1·19	81·35	12.	..	65·3

The first eight of these gave precipitates which rapidly crystallized. The difference in the amounts obtained is practically the difference in the water content. The last four specimens are very bad. No. 9 contained only 66·4 per cent. of crystalline, and 12·2 per cent. of amorphous alkaloid; No. 10 contained 43·8 and 34·93, and No. 11 41·7 and 31·7 per cent. respectively of crystalline and amorphous alkaloid. The author emphacised the importance of noting the character of the precipitate. In the case of the bad specimens this is always gummy or oily, and as cheap cocaine salts are invariably of this character, it is obvious that they should be carefully examined. The author stated that he had received from Dr. Fuller, a quantity of the amorphous substance in question. It is in the form of a viscid liquid, like Canada balsam, yellow in color, bitter to taste, possessing a characteristic odor and alkaline in reaction. It differs chemically from quinine, is freely soluble in alcohol and ether, and dissolves in dilute hydrochloric acid forming a milky solution. A neutral solution of the hydrochlorate becomes acid when heated in a sealed tube; hence to the presence of this body is due the acidity of cocaine salts. The author is continuing his investigation. In conclusion the author referred to the utility of Maclagan's ammonia test, but recommended less water to be used. He had had some experience with the method recommended by Mr. Williams, viz., solution of the hydrochlorate in absolute alcohol and precipitation with pure ether, and had found that the hydrochlorate of the amorphous alkaloid is precipitated along with the cocaine salt. He therefore thought that this method of purification was only suitable for purifying pure salts.

Mr. Stocken, L.D.S., on the invitation of the president, started the discussion. He said that dentists had found the action of cocaine as a local anæsthetic to be so erratic that they were losing confidence in it, and were, indeed, afraid to use it. He had employed it in three cases. In the one it was quite satisfactory, but in the other two very serious symptoms were produced. A medical gentleman was one of the patients in whom toxic effects were induced

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He had previously injected cocaine into this gentleman's gums, and there was no bad effect but a second time, immediately after the tooth was removed, the patient experienced pressure at the heart, numbness of the extremities, and nausea, but the intellect was quite clear, although there was intense anxiety. These alarming symptoms were relieved by nitrite of amyl. Another similar case was related, in which difficulty of swallowing was experienced, and this was so terribly influenced by the drug that he gave Mr. Stocken directions as to what should be done when he died. The Odontological Society have recently investigated the matter with very curious results, some dentists having only the best experience, others the most disagreeable. On the whole the speaker felt, after hearing the paper, that the toxic symptoms must be due to the use of impure cocaine, and he could say that in the case of his medical patient the cocaine used the second time was different from that used on the first occasion. It was not a question of idiosyncrasy. The solutions were fresh.

Mr. Postans suggested that cocaine should be preserved in the form of gelatine lamels.

Mr. Martindale fully corroborated the remarks regarding the ammonia test. If the cocaine salt was crystalline and answered this test it could be used with safety. Those specimens of cocaine hydrochlorate which occurred in micaceous crystals were not pure; the definite crystals were better, and should be perfectly free from odor and water. He exhibited specimens of these different varieties; also a sample of cocaine saccharate, made by digesting cocaine and saccharin together. This combination has been recommended as an application for the throat, as it is free from bitterness. It is somewhat deliquescent.

Mr. Sydney Plowman, F. R. C. S., said that we were apparently on the threshold of the subject, as little could be said until the physiological action of the amorphous substance was known. It was interesting to hear that it had no anæsthetic action when played on the tongue, yet it might have when applied to the eye or injected subcutaneously. He quite agreed with Mr. Stocken that different observers had come to different conclusions regarding cocaine. He had used cocaine extensively for subcutaneous injections, and as the result of observation in at least fifty cases had come to the conclusion that toxic results were a matter of idiosyncrasy. For instance, he had injected half a grain into an emaciated child, well-nigh at death's door, and it produced no bad effect, but the same quantity produced alarming symptoms in an adult. It was quite possible that the toxic effects in some cases were due to impurities, but that they could not tell until they isolated the impurities and determined their physiological action. He reminded the meeting that, as the result of experiments in which he had something to do, Dr. Edmunds had shown that no stronger solution than 5 per cent should be used, as the more dilute the solution the more readily are the anæsthetic effects produced. He thought the saccharate was an unnecessary refinement. It was not the taste they objected to in throat cases, but the feeling of restriction which the saccharin would not remove. He agreed with Dr. Squibb that the granular cocaine was the better. In thirty cases he had used it without toxic effects. That was in the early days of cocaine, when it was said to be less pure than now.

Famous Oil Scouts.

BY A. R. CRUM.

In a country so fiercely energetic and pushing as the United States, where the highest tension is constantly maintained in commercial affairs, it seems unnecessary to refer to the energy displayed in the development of any particular industry. But even in this land of progress there are varying degrees, and nowhere is there more impetuous forging ahead than in the oil producing regions. There is a vividness about oil country life that once experienced is never forgotten. Beginning at nothing twenty-nine years ago, the petroleum industry has reached an important standing in the commercial world, the exported products alone being valued at $45,000,000 to $50,000,000 annually. The element of uncertainty attending the production of crude oil has led to the creation of a bold and daring speculative spirit in those engaged in the business, and the keenest competition imaginable. This combination of conditions gave rise to the occupation of "oil scouting," and in this vocation was the ceaseless energy, sharp competition, nervous haste, acute perception, and bold, daring execution of the whole industry typified.

The development of the Cherry Grove region of great flowing wells, many of which were "mysteries" in 1882, called the business into full development. "Scouting" was unknown up to that time, though prior to that year the newspapers of that region were largely depended upon for information of new developments. There were, perhaps, four or five scouts besides the field reporters. When Grace & Dimick boarded up the derrick at their wildcat well in the heart of a hemlock forest, about nine miles southwest from Clarendon. This well soon became famous as the "646 mystery," being located on the lot of that number. The scouts who were in the field were soon on the ground watching the well. But the derrick was carefully closed up to conceal anything that might take place therein, the tanks were snugly housed and the doors kept locked, and the better to keep the secret of the well seven guards, armed with shot-guns, were stationed along the boundaries of the lease, with instructions to allow no one to pass. This state of affairs was maintained for over two months.

In spite of all these precautions "81" Hughes the pioneer of the scouting business, having watched developments through the Bradford field, obtained full knowledge of all that was done at the well. Before the tanks were put up or the guards placed, he was on the ground. Day and night he was there. He was ordered off the premises and obediently moved away, but just as often reappeared, unmoved by the threats of the guards to fill him with buckshot if he did not stay away. For hours he sat in that hemlock forest, with the thermometer at zero, with a powerful field glass focussed on the well, observing every movement. Under the friendly cover of the darkness of night he crept up to the derrick and about the tank houses, timing the flows, getting specimens of sand, and gleaning other information. The story has been published widely that he hid himself for over forty-eight hours under the derrick floor, where the mud and water from the sand pump was poured over him and frozen on him, but Mr. Hughes repudiates the idea that he would conceal himself in such a place, not because of the discomfort and hardship, but for the reason that he could neither see or hear anything of much value in that position.

Acting on Mr. Hughes' information, the Anchor Oil company secured much valuable land about the "mystery," which netted it over $500,000. When the well was finally opened and the great public learned what Hughes' had found out weeks before, that it was a thousand barrel well, the crude certificate market declined rapidly to the great profit of persons who had sold short on Hughes' information. Then the great rush to the field began, and leading speculators in all exchanges found it necessary to have scouts in the field, and large producers also saw the advantage of having quick and reliable advices. The business of "scouting" at once became a feature of the field. The shrewdest, most careful, reliable and practical men in the region were selected. Those who had had training as field reporters were in lively demand for their knowledge, and the rest were bright, intelligent men from other lines of business that had made them familiar with the various phases of the oil business.

Among the field reporters who entered the new business at this time was Justus C McMullen, late publisher of the *Petroleum Age*, and one of the editors and publishers of the Bradford *Daily Oil News*, whose recent death is still a poignant sorrow to his friends. He had already made an enviable reputation as an accurate, reliable statistician and field man when he became one of the "scouts." His conscientious accuracy was frequently noted during the time he lived in the shadows of the towering hemlocks of Cherry Grove, on Cooper Hill and at Bailtown. When others telegraphed rumors and guesses, he staid up all night secretly to run the gauge pole in mystery tanks. When no important well was drilled in, his tireless energy was expended in mapping important locations, compiling important statistics and getting geological records. He was not always first in the mad rush to the telegraph office, for he never telegraphed anything until he knew it to be right.

The last field work he did illustrated the integrity that actuated him. A week before his death he started out to collect the data for the monthly report of operations. There were conflicting reports regarding the Pittsburg Manufacturers' Gas Company's well at Canonsburg and to settle all doubts Mr. McMullen went to the well to get a gauge. He was sick then. Other fieldmen went out out from Pittsburg with him. When they reached the well they were told that it had just made a flow and would probably not make another until the afternoon. They were told what the well was doing. This was good "hearsay" evidence, and as the thermometer stood several degrees below zero, the other fieldmen went away satiffied with it. Not so with "Mac." There had been false reports about the well and he must know the truth. For more than six hours he waited there, chilled to the very marrow, until the well flowed again and he had gauged the flow. Then he went back to Pittsburg, sick. But he did not give up. He must complete his oil report, and he did, though the pain he suffered was terrible. The data he brought home with him, and dictated to his loving wife from his death-bed, was as accurate and reliable as any ever gathered.

During the palmy days of scouting, when every important well was made a mystery, there were many exciting adventures encountered by the scouts in their midnight work. Guards were sometimes lonely in the still watches of the night and amused themselves by firing their rifles, muskets or revolvers in a promiscuous manner, not calculated to encourage scouts prowling in the vicinity. J. C. Tenant, "the king of the scouts" one of the best of the trusty field men, known to the fraternity as 'Jim," made a narrow escape from one of these random shots while watching the famous "Shannon mystery" on Cooper Hill in September, 1882. One night when he was stealing softly away from the tank house in search of his rubber coat, which he had left on a mossy log outside the "dead line," a bullet from a guard's rifle cut the knee of his pantaloons so close to the knee-cap that he felt it passing. With his usual courage he kept on his way and staked on the lease until morning. One of Mr. Tenant's exploits was getting up at midnight in Garfield, riding down the Bailtown hill, fording the Tionesta through three feet of water, galloping five miles through virgin forest to a "mystery" owned by Capt. Peter Grace and others, and with the assistance of a fellow scout, drilled the well through the sand before morning.

This was an intensely dark night, the way was rough and dangerous for a horse to travel, but the scouts, who "slept with one eye open," learning that Tenant and another were going out at that unholy hour were soon out of bed, dressed, in the saddle and following. The well had been shut down for two weeks or more, just on top of the oil sand. Tenant and his companion soon had a roaring fire under the boiler, and when they had steam enough the tools were run down. "Jim" was an expert driller, having served nine years at the temper screw, and shortly after daylight he knew that that well was dry. The tools were drawn from the hole and placed as they had been before the drilling. The sand taken out was carefully collected and poured back into the hole, the fire under the boiler put out and a start made back to Garfield, when the scouts who had followed rode up, much to Tenant's surprise. Grace heard reports that his well was drilled in and dry. He hastened to the locality. There was some evidences that work had been done with the tools, and so he had the hole measured. The sand having been poured back in the hole, the line did not go down much farther than it had before, and the conclusion was reached that the sand had not been drilled into. But when the drillers were finally sent to bring in the well, they found very easy drilling and knew the truth at once.

Many were the wild rides to a telegraph office nine or ten miles distant, each scout anxious to file the first message. Oftentimes the owners of the wells were of the cavacade, urging their horses with whip and spur, but there is no case on record when owners were not beaten by some of the hard-riding fieldmen. The best of horses were in demand, and the time made was, in some instances, remarkable, considering that the roads were of the roughest. Occasionally a horse, going at a mad gallop, would stumble over the rocks in its path and fall, throwing its rider over its head, but accidents were few. Mr. B. S. Tupper, the only one of the old time scouts who is constantly in the field yet, was thrown in this way on the road from Cooper Hill to Sheffield in the spring of 1883, and had his leg broken. He declined assistance from those coming after him, but refused to be moved out of the road to let them pass until they had taken his messages to deliver at the telegraph office. After filing the messages they returned at once and carried him tenderly to the town.

The following story of scout life is not true to character and incident, but on the whole is an excellent picture of the methods employed, both by the owners of the "mystery wells," anxious to keep their secret, and of the scouts anxious to obtain it:

It was when a warm June sun was melting away the last dregs of ice that remained in the heaviest shadows of the deep hemlock forests adjacent to the upper waters of the Allegheny river, that some enterprising and reckless speculators located a test well to drill for oil in the very heart of one of the afore-mentioned forests. From the start the venture was intended to be a mystery to such other enterprising speculators as might have an interest in knowing its result. The tall derrick was perched on the summit of a high hill, and when drilling was begun the creak of the heavy walking beam, the discordant note of the pulley at the crown of the derrick, the shrill hissing of steam escaping from the boiler and the clang of the tool dresser's heavy forge hammer served to frighten away from the spot all the wild things that had before peopled it, leaving the four workmen there alone. After the novelty of the first few days had passed it became terribly lonely for those men. Then it was the wish came to them that some of the wild things that had scurried away when they came would come back and give voice to their savage growls and cries to break the monotony.

The occasional advent of one of the owners, or a wagoner bringing provisions or other supplies, was an event hailed with joy. On such occasions the rude shanty, which served as kitchen, parlor and sleeping apartment for the men, took on its holiday attire. The visitor was invited to sit at the festal board, and was plied equally with the best the store could furnish of eatables and drinkables, and questions concerning the events of the great world beyond.

But at last an eventful day came. The oil rock was penetrated more than a third of a mile below the surface, and a puff of gas came up from the mysterious depths. The tools were quickly drawn up from the hole, the fire under the boiler quenched, and the contractor set out on a pilgrimage to the nearest telegraph office ten miles distant. The news was flashed over the wires to the owners late that night, and before evening the next day they were gathered with the workmen in the shanty at the well, top booted, spurred and travel stained. All night busy preparations went forward. The derrick was closely boarded up, the tanks housed over, and every precaution taken to prevent any chance comers from seeing anything likely to aid them in making an estimate. Two of the men were released from further duty and dispatched to the nearest town to employ ten men to stand guard about the well and prevent intrusion. All this having been attended to, the tools were run down and a few strokes given. A rush of oil and gas came up the long rock bound tube, broke in spray against the derrick roof, and subsided. The tools were hastily drawn up again, and they were followed by another flow of oil and gas stronger than the first, and which did not cease as the other had. Three long pine plugs were fitted to the hole and pounded down with the two tons' weight of tools, but a steady stream of petroleum still came forth. Old coats, old hats, coal ashes, and rubbish of every description were forced down to gag the tell-tale mouth; but all these efforts proved unavailing, the stream was turned through the long iron lead pipes to the tanks, the pipes being muffled so as to prevent the flow making any more noise than possible, and then the great mystery was before the petroleum trade.

While these busy scenes were enacting at the well, others were not idle. The bold speculators were missed from their accustomed haunts and telegraphic whispers went far and wide that something was brewing in the wilderness that might create a great commotion in the petroleum regions and in speculative circles elsewhere. Field scouts sent hasty messages to their principals in the oil exchanges, vaulted into the saddle and were on the trail. At the little town they learned that the owners of the mystery had gone out the day before; that two of the workmen had come in from there, hired ten guards and sent them out, and then boarded a home bound train. The meaning of this was too evident, as the men would not have gone home unless the well was down to the oil sand.

Over the rough roads clattered the hoofs, up hill and down hill, so that the careful preparations at the well were hardly completed when the little cavalcade was halted by one of the guards who had arrived less than half an hour before. The order to halt obtained additional force from the presence of a huge tree trunk which had been felled across the rude road cut through the forest to the well, and behind the trunk stood the guard, leaning on his rifle.

The derrick and tank house were just visible through the trees, and they became objects of the most solicitous interest to the little band of information seekers. As they gazed, they plied the guard with easy questions about the well, the answers to which were about as full of information as those of the small boy who informed Dickens that the room in the prison formerly occupied by Little Dorrit was then tenanted by Tom Pythick, and in answer to the query who was Tom Pythick replied: "Joe Pythick's uncle."

Toward evening the trio of bold speculators who controlled the well rode away, exchanging friendly greetings and more answers of the Pythick order with the scouts as they passed. And when at last the black shadows of the night threatened to mingle with the gray shadows of the forest the scouts, too, turned their horses' heads down the hill and were soon lost to the sight of the guard. Not to gallop to the little town behind the trio already gone. Oh, no; but merely out of sight. Then, dismounting, they led their horses a little way into the wood, secured them, and crept stealthily back toward the mystery until close enough to see the lay of the ground without being seen or heard by the guards. Here they lay on the ground and waited patiently for the night.

Perhaps the belief that human eyes cannot see objects in the dark may have had something to do with these movements. At any rate, the guards who were relieved at midnight met their successors with the word that all was well, that no persons had been seen about the premises. And the other guards, when relieved shortly after daybreak for breakfast, reported a quiet, uneventful watch. True, they had once or twice thought they had heard something moving about, but on listening carefully there was no sound louder than their own breathing, barring the plaintive notes of the blinking owls.

At that same early breakfast hour the dozen scouts were riding briskly along the forest road to the town. One carried a bottle filled with bright amber oil, another treasured a handful of oil saturated sand, and another triumphantly exhibited a tape measure, very oily at one end, from which dangled a little witch hazel stick. And as they rode they talked and said how one had filled his bottle from the pipe, and one had gathered up the sand from where it had been deposited by the pump, and one had thrown his hazel twig into the tank, and it floating on the water at the bottom left the tell-tale stain, to tell the depth of oil, upon the tape. One had counted all the coils of rope wound around the bull-wheel shaft and knew how deep the tools had been, and one held his watch and timed the flows. All had dodged the guards and held their breath while passing lest they should be heard. So, gaily on they rode, to telegraph their principals, and sleep, and eat, and feed the faithful beasts they rode.

That day the charm was working. The fate of millions hung upon the spell. On 'Change nothing else was talked of. In hotels and stores, club rooms and offices in distant cities, that mystery well was the theme for all. The

question what the result would be when those plugs were drilled out was heard on many tongues, but none could answer.

The weeks following were grown as monotonous, almost, to the guardsmen, as those before had been to the drillers, except that the restless scouts came and went as the days and nights did, and in the oppressive stillness that had again fallen on the forest hilltop the wild things crept back again and awakened the echoes in the still night air with their cries. Then the guards began shooting to frighten the beasts away, not sorry if the random shots should render the scouts' incursions less frequent.

At last, when curiosity was at fever pitch, the workmen were sent back into the wilderness to drill out the plugs and open up the well. The trio of owners took up their quarters at the shanty, and the scouts came and went beyond the guard line, carefully noting every movement within the charmed circle. They conferred with their fellows, rode away and came back again. But day and night there were always two or three on watch.

The season was now late autumn. The day was one of those that begin with a light falling rain, swell to a furious downpouring, and ends with a dismal, soggy, chilly drizzle that always last through the night, and seems to give way, reluctantly, to a cold, gray fog that retains the morning twilight until half the forenoon is spent. "Regular fine weather for a dog," as one of the scouts sarcastically soliloquized while his horse was toiling up a steep hill, floundering about in the deep mud and stumbling over the rocks that lay hidden in the path. The rain had then reached the stage of transition from gently falling to furious pouring, and the water already ran freely from the horseman's rubber garments.

By the time the ascent of the hill was accomplished on one side, and the descent on the other, the rain was descending in torrents, so the rider urged his horse to a gallop across the rude wooden bridge and along the muddy road skirting the base of the next towering hill. And when the well was finally reached the rain was still pouring down with unabated fury.

wo of the scouts were there, plodding about in the rain. Glad of relief, they quickly posted the newcomer on what had been done during his absence, mounted their dripping horses and were gone, leaving him alone with his reflections.

Scout Bob—for by that name he was known—provided the best he could for his horse, sought a position where he could see the derrick, leveled his field glass and sat on his mossy log hour after hour, until the rain had dwindled to a drizzle and the chill damp had gone clear through him to the very marrow. But he heeded not the elements, for he saw, through his powerful glass, the pipes leading to the tanks vibrate again and again with the fierce flows of oil, and he knew that the mystery was being solved. The plugs were out and the bit was cutting the porous rock.

When darkness had blotted the nearest tree from his view, he crept cautiously away toward the well. And many a time that night did Bob catch his breath at the first warning of the doleful hoo-oue-oo of the owl, fearing that it might be the beginning of less welcome words in the guard's voice. And many a time did his pulse quicken at the sharp report of a guardsman's rifle, and once he heard the whirr of the bullet close to his ear. That it was not intended for him did not compensate in the least for its dangerous proximity. "I might as well be shot on purpose as by accident, so far as I am concerned," he thought with grim humor.

Yet he did his work bravely and well, and was crawling away just as the first faint gleam of light began to color the black fog gray. But the guard was on his round and blocked the avenue of escape. Bob crouched down beside a friendly log and watched for him to pass on. Minutes seemed like hours to him as he heard the trio at the shanty preparing for their departure. They would get out before he could, he thought, and that was agony. Still he dared not move. His employer might lose a fortune if he did not get out on time, make one if he did; but there was the guard right in his path and he on the wrong side of the guard line. He heard the horses saddled, heard them shake their bits, impatient to start. Curbing his own impatience, he employed the time writing the telegrams he meant to send when he did get out, though not suspecting then what a wise action it afterward proved to be, and then he heard the horses start down the muddy road.

The guard turned to pass on. Bob leaped to his feet and ran, but, alas! his haste disclosed him. The guard was in pursuit, and was soon joined by his nearest fellow. Bob ran as if for life, and the guards, intent on delaying his departure, pursued hotly. He reached his horse, slipped the knot and was in the saddle, but so close were his pursuers that the foremost man touched his foot as he sank the spurs into his horse and was gone.

Away went horse and rider through the oozing mist at a mad gallop, leaving the chagrined guards to what consoling thoughts they might conjure up. But the trio were out of sight and hearing. Frantically the scout urged his steed to a wilder pace. Down the hill and into the valley. The stream was so swollen by the heavy rain that a film of water covered the road to the depth of several inches. Bob drew rein and listened. He could hear faintly the beat of horses hoofs ahead. Once more he galloped away. He was right on their very heels when they drew up short. Bod and his horse went plunging headlong into the raging flood, unable to stop when they saw that the bridge had been washed away. Clear out to the middle of the stream, and then the poor beast floundered and went down Bob was out of the saddle, and in a moment man and beast were struggling madly for life with the turbulent waters. On the band the speculative trio were transfixed with horror at the scene, and unable to give the slightest aid.

Getting hold of the bridle, scout Bob directed the horse's head toward the opposite shore, and so in time they landed, completely exhausted. Bob sank to the ground and lay for some minutes as much dead as alive. Rousing himself after a time he sat up. His poor horse stood beside him, shivering still with fright, and barely able to retain its foothold on the steep bank.

Collecting his scattered senses, the daring scout remembered the object that had brought him there, staggered to his feet and laid his hand on the bridle. In another minute man and horse were carefully picking their way along the bank toward the road. The trio were still rooted to the other shore, but seeing with dismay that Bob would soon be on his way again, began to cast about for means to get across the creek, when one of the party remembered another bridge that could be reached by making a long detour.

Reaching the road, Bob mounted, turned, waved his hand to the trio, and then urged his horse up the hill at a painfully slow pace. On, on, the weary road seemed to have no end. Up the hill and down. As he turned in on the level road leading to the town he looked back, and there, coming over the crest of the hill, were the trio. The pursued were now turned pursuers, and the jaded condition of the oil scout's horse rendered the race well nigh hopeless. Whip and spur goaded the poor beast to do its best, but the pursuers were fast gaining ground. At last the town was in sight, but the clattering hoofs beat louder and louder in the rear. As the scout turned up the street to the telegraph office they passed him, but he held on with the courage of despair, keeping close to them. The three leaped from their horses, without stopping to tie them, and rushed into the office. Bob followed in the same manner, and as the trio stopped to write their messages the scout thrust his, already written, into the operator's hands. He had won the race after all.

Next day, when Bob rode out to the well on a fresh horse, in company with the trio and several fellow scouts, he passed numerous wagons on their way to the wilderness laden with everything that goes before civilization, and when he visited the lonely hill again a fortnight afterward it was lonely no longer. A village had sprung up in the midst of the forest. Hundreds of men and scores of women and children peopled the spot. The wizz, wizz of the carpenter's saw was heard in the stead of the mournful hoo-oue oo of the grave owl. A new oil field was opened, and the flush of excitement was upon it. The old derrick stood there with its blackened frame frowning down upon the new houses, but its secret had been stolen by the oil scout, and it was no longer the mystery well.—*Buffalo Express.*

Gossip About Drillers in the Washington Oil Field.

The *Derrick's* oil scout gives the following interesting gossip about the busy men in the Washington field, and incidentally some views anent the ventures:

The busiest driller in the Washington oil field, and possibly one of the busiest anywhere, is Mr. Joseph W. Craig. This gentleman and the firm he represents have five sets of tools under constant and diligent exercise, all of them doing business in the Fergus annex, although all of them are not at work on the Fergus farm. It is reported that Mr. Craig and his friends are about to test their luck on the Crow farm in Butler county. Be that as it may, ground has not been broken for a well as yet and many a good long day may elapse before it has. Next to Mr. Craig and a good second among busy drillers is Mr. Samuel Fergus. Mr. Fergus, not content to drill his 24 acres reserve full of holes, he has turned his attention to wildcatting. He is building rigs on the Pease farm adjacent to the Fergus gusher and upon the Fergus homestead a mile east of his well. This adventurous wildcatter may in the end come to grief. If he don't someone else will, and that other person is liable to be the trade. Speaking of wildcats, Mr. Fergus' stalwart luck has completely turned the heads of the young farmers to his neighborhood. Already he has imitators. Wildcat, whose magic name has lured the enterprising oil man to his own destruction, is about to become the ignus fatuus of the conservative Washington county farmers. The first to follow Mr. Fergus' example are the Andrews brothers. I suppose there is more than one, and assume that they are bothers. At all events, the Andrews have made up their minds to dig an oil well, assuming, as all farmers do, that their land is oil territory second to none in the market or out; and all that remains to obtain oil in large quantities is to bore a good big hole. Andrews, unlike Mr. Fergus, assumes no risk in the undertaking; he or they grant Jim Christie the opportunity to drill a well at his own expense on the lower end of the Andrews farm, for a half interest in the same. Considering the great risk assumed by Christie, and the exceedingly small show of getting oil, those familiar with the situation agree that Andrews have driven a very sharp bargain. Last year Mike Showers drilled a dry hole near the center of the Andrews farm. If they have oil they are helped, and if there is no oil they are not hurt.

Sam Fergus is a man of broader mould. Sam, it is true, while assuming, so to speak, the entire risk, has only one-half the working interest in the geyser that bears his name. He paid all the money and were he less liberal would have owned it all. It was just as easy for him to have had the whole hog for himself as to have divided the animal among his friends and retained a pork chop for himself. In the event of failure the loss would have been his. When the history of this enterprise has been written, it will be seen that Sam, generous, good-natured soul that he is, drilled this well solely to accommodate a poor pumper who had faith in the location and desired an eighth interest in it; the pumper was a good fellow, but like many of his class, was impecunious. Sam carried the interest for him. The pumper, with much faith but little money, was my old friend Bob Greene, who at the time, was pumping for Davis Bros. at the princely stipend of $50 a month. Sam had faith in Bob and cheerfully put up 8,000 cold round dollars to drill a well in which Bob might have an interest for nothing, at a point where men of larger practical experience would hardly have accepted as bonus on half the cost of a well, and drilled one at the same spot. A half a well was good enough for Samuel, so he hunted up his good friends, Jim Henderson, Jim Bernard and John Donnan, Esq., and prevailed on them to take an eighth each on the ground floor. The pay for these interests was realized from the first four days' production of the well. Generosity of this wholesale nature is so entirely foreign to all well founded theories of business, that the average work depending on the information herein contained for his facts, will probably arrive at the conclusion that Mr. Fergus is not a business man. But nothing could be wider from the mark, he is a business man of large experience and undobted capacity. He served his county honestly and ably as Treasurer, and made a good accounting of his towardship; his popularity is such that he could be elected to any office in the county. Sam has a heart in him bigger than his well, and that he is doing 1,600 bbls. a day.

Bob Green, one of the lucky owners of the well, has refused $20,000 for his interest in it; Bob says it will earn $25,000, and that extra $5 00 might as well go to R. Green as to his assignee. Robert naturally feels elated over his big strike, but it has not turned his head. Bob was called to Bradford the other day on business that would detain him two days in the Northern metropolis. He couldn't see how he would be able to leave a big well like this for even a period so short, but if he must go, he must, and he went. At the station he met an old friend who was going his way. His friend invited Bob into the smoker to enjoy a good cigar, but declined, and in language more expressive of force than elegance, said: "I've been a ridin' in smokers all my life. Now I'm goin' to turn a new leaf. I'm goin' to take a gentleman's car to Pittsburgh, and from there to Bradford I'm goin' to have a Pullman, if it takes a hull day's production." Bob took the Pullman.

The Jo Jo Oil Company's last well on the Hilton farm, Taylorstown, is said to be doing better than 200 barrels a day. The Two Joe's, from which the farm derives its name, have a rig up about ready for the drill, and another building. The Kuhns well on the Martin farm, same district, is nearing the end.

OUR CHALLENGE
TO
J.W. Masury & Son.

For a month past we have published in the "Paint, Oil and Drug Review," of Chicago, an answer to the "why" advertisement of Messrs. Masury & Son, which has appeared in the columns of that paper. The answer was accompanied by a challenge of a very plain and specific nature, inviting comparison of the

Harrison Painters' Colors,

against those of the "why" "standard" of Messrs. Masury & Son. Notwithstanding that Messrs. Masury & Son, in their advertisement, "guarantee" their colors to be "the best in the world,"

THE CHALLENGE HAS NOT BEEN MET!!

We submit the facts to buyers of paints for their thoughtful consideration, leaving them to draw such inference as may appear to be fairly warranted, and to Messrs. Masury & Son we respectfully suggest the propriety of being more moderate hereafter in their claims concerning their "standard."

HARRISON BROS. & CO.,
Philadelphia.

JAVA OIL JAVA OIL

A Substitute for Linseed Oil.

Sold for half the price, yet in every respect as good an article.

A Pure Vegetable Oil and Odorless. It will cover more surface than Linseed Oil and is more durable. For all descriptions of work requiring permanency it is invaluable.

As a Priming to New Buildings, mixed or unmixed with Colors, or any work subject to exposure to the weather [except outside white] it is warranted to give satisfaction.

It is used in the same way as Linseed Oil and the same Dryers answer for both. It also works admirably when mixed in equal parts with a good article of Linseed Oil, being of the same consistency and color.

Send for Sample and Price.

S. P. SHOTTER & CO.,

Importers of Oils and Dealers in Naval Stores,

SAVANNAH, GA.

Pennsylvania White Lead Co.,

ESTABLISHED 1844. INCORPORATED 1887.

—SUCCESSORS TO—

C. F. WELLS & CO., formerly B. A. Fahnestock & Co.,

PITTSBURGH, PENN.

MANUFACTURERS OF

FAHNESTOCK HASLETT & SCHWARTZ STRICTLY PURE WHITE LEAD PITTSBURGH, Pa.

ORIGINALLY B. A. FAHNESTOCK ESTAB. 1844 TRADE MARK REGISTERED 1873

Each package of the original B. A. FAHNESTOCK LEAD now bears a gilt tablet of which the above is a fac simile.

WILEY & RICHARDSON, Boston, Mass., Wholesale Agents for New England

DOLSON THIS PAINT is Manufactured of the BEST & PUREST MATERIAL AND WHITE LEAD.

TREMONT PAINT WORKS 33 BATTERYMARCH ST. BOSTON, MASS ESTABLISHED 1849

JOHN BRIGGS & CO.,

Proprietors of the Celebrated

Dolson White Lead.

Manufacturers of

PUTTY,

HOUSE, SHIP and COACH COLORS,

READY MIXED PAINT,

TINTED WHITE LEAD.

French & American Zincs,

WHITING, OCHRES, &c., &c.

MOUND CITY PAINT AND COLOR CO.,

ST. LOUIS, MO.,

Manufacturers of

Strictly Pure Mixed Paints,

Barn, Bridge and Fence Paints, Colors in Oil, Coach Colors, Dry Colors, Varnishes and Buggy Paints.

Write for our Prices.

THE ULSTER LEAD CO.,

SAUGERTIES, ULSTER CO., N. Y.

THE ULSTER WHITE LEAD ★ PERFECTLY PURE SAUGERTIES, N.Y. BATTELLE & RENWICK, N.Y.

Manufacturers of

Pure White Lead,

OFFICE

163 Front Street, New York,

AGENTS FOR NEW ENGLAND,

COULD & COMPANY, Boston.

MAXWELL WHITE LEAD CO.,

CHICAGO. NEW YORK.

MANUFACTURERS OF

Non-Poisonous White Lead

DRY AND IN OIL.

Office Eastern Department,

T. B. SIMS, Manager,

71 BROADWAY, NEW YORK.

Chicago Office,

Pacific Junction,

COOK CO., ILL.

Atlantic White Lead AND Linseed Oil Co.

MANUFACTURERS OF

"Atlantic White Lead.

ATLANTIC WHITE LEAD PURE WARRANTED ROBERT COLGATE & Co. TRADE MARK

Pure

Red Lead, Powdered and Flake Litharge, and Glass-House Lead.

ALSO

Refined Glass-House Lead

Especially adapted for the manufacture of the FINEST QUALITIES OF GLASS, and we guarantee its UNIFORMITY.

LINSEED OIL,

RAW, BOILED AND REFINED.

Also a Superior Grade especially adapted for Varnish Makers' use.

Address, ATLANTIC WHITE LEAD & LINSEED OIL CO.

287 Pearl Street, NEW YORK

COLLIER WHITE LEAD AND OIL CO.,

ST. LOUIS, MO.,

MANUFACTURERS OF

Strictly Pure White Lead.

Red Lead and Litharge,

Lead Pipe, Sheet Lead, Bar Lead.

CHEMICAL SHEET LEAD,

Linseed and Castor Oils and Glaziers' Lead.

NATIONAL LINSEED OIL COMPANY,

Selling and Purchasing Agents for

Linseed Oil Manufacturers

PURE LINSEED O ,

Raw, Boiled and Refined always on hand. Delivered in BARRELS or TANK CARS. OIL CAKE for Export and Domestic Use.

CORRESPONDENCE SOLICITED.

Office. 185 Dearborn Street, CHICAGO, ILL.

SALEM LEAD CO.,

SALEM, MASSACHUSETTS,

BOSTON OFFICE, - - - - - - - - 21 PEARL STREET

CORRODERS AND GRINDERS OF

Pure White Lead,

MANUFACTURERS OF

LEAD PIPE and SHEET LEAD from 5-8 to 8 Inches in Width

All goods warranted to be equal to those of any other Manufacturer.

"The Best Burr Stone Mills IN THE WORLD,"

FOR

WHITE LEAD, READY-MIXED PAINTS,

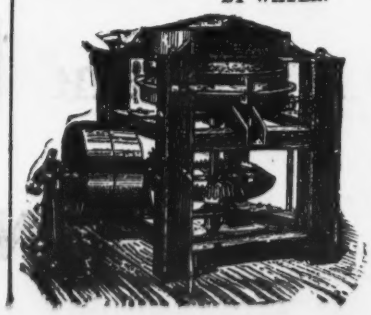
Coach Colors, Artists' Colors

Printing Ink, Axle Grease,

CHOCOLATE, &c.

MILLS THAT MAY BE HEATED BY STEAM OR COOLED BY WATER.

Ross' Combined Mill & Mixer FOR COLORS IN VARNISH.



DRUGGISTS' MILLS,

Ore Sampling Mills

Mills for Flour, Feed, Drugs, Chemicals, Spices, Dyestuffs, Dry Paints, &c.

ALL KINDS OF

MIXING & SIFTING MACHINERY

CHARLES ROSS Jr.

81 & 83 South Fifth Street, Brooklyn, E. D., N. Y.

PAINT MARKET.

Note—*Our prices are for large lots except when otherwise specified, and buyers of small quantities must expect to pay an advance on these figures.*

The prices current will be found on page 49.

TUESDAY EVENING, April 3, 1888.

White Lead, Zinc, Etc

The pig lead market presented a firm tone during the first part of the week under considerable trading on speculative account. About 1,200 tons changed hands on the basis of 5 20c for April delivery, but later unfavorable advices from the other side had a depressing effect and the market receded to 5 10c for spot and 5 12½@5 15c for futures with no recovery so far as we could learn up to the close. The consuming demand is very light, as manufacturers will not come into the market, except when absolutely necessary, while it is under speculative manipulation. The western markets to some extent, have reflected our own. Messrs. Everett & Post write on the 31st that business at Chicago during the week was confined to car lots principally, with little inquiry from any source, either speculative or consumptive. They called the nominal quotations 4⅞@4 90c. The St. Louis market opened up quite strong with sales of several hundred tons at 4 90c; but later a weakening tendency was visible and values declined to 4 80c as a nominal quotation. There is not much lead offering there, but at the same time buyers are very apathetic and won't anticipate their requirements.

White lead in oil is moving into consuming channels principally on contract deliveries. The market is still unsettled and some corroders have reduced their quotations in order to meet competition. It is hard to say what is the bottom of the market, as prices in some sections are being freely cut particularly by the western corroders. For city brands the range is 6¼@6¾c as to brand for lots of 500 lbs and over less 2½ per cent for cash. Extra discounts and rebates are allowed to buyers of 5 and 10 ton lots.

American oxide of zinc has been in fair request, in a jobbing way, at the following unchanged figures. We quote domestic at 4½@4¾c as to quality. French zincs have been stationary, the following continuing to rule: 6¾c for dry Antwerp red seal in bbls of 220½ lbs; Paris red seal 6½c, and 7¾c for dry Paris green seal. Discounts on French are as follows: To buyers of 10 bbl lots of one or assorted grades 1 per cent, 25 bbls 2 per cent and 50 bbls 4 per cent. No discount is allowed on less than 10-bbl lots, and discounts include brokerage.

Dry Colors.

REDS

Several causes put a damper on what should have been a good week in the market for paints. One of chief obstacles in the way of better business is the strike which is in progress in Chicago, and which retards orders from that section, together with the tariff discussion which is at present agitating the whole country. A fair jobbing business has been done, however, but no transactions of any magnitude can be noted. Venetian reds have been selling fairly well in a jobbing way with quotations unchanged at the following figures: $1 45@1 50 for special brands in large lots, and these figures also cover the range of quotations for other makes, according to quality and size of order. For American makes the demand has been fair, and sales to a fair extent in a jobbing way are reported at the following figures, which are identical with last week, namely: 90c@$1 05 for ordinary, with some brands held at $1 20@1 25, according to maker and the quantity desired.

Red Lead and Litharge, have been selling to a fair degree, all sales being of a jobbing character, but no business of any moment is reported. Quotations are unchanged at the following figures, 6¼@6½c for the former and 6@6¼c for the latter.

Cobalt Oxide—Prices on the other side have advanced to $2.90 for prepared and $2.50 for black, but it is not likely to effect the market at this port, beyond giving it a firmer tone, owing to the fact that buyers have purchased or contracted for sufficient stock to supply their wants for the season.

Orange Mineral—There has been the usual demand for this article, and we hear of transactions to the extent of 10 tons of German at current quotations, which are as follows: English 8¼@9c, French 8½@8¾c, German 8¼@9c; while domestic makes rule at 8@8½c, according to quantity and quality.

Carmine—There has been a fair jobbing business, doing in this article, but nothing out of the ordinary can be noted. The manufacturers held a meeton Tuesday, but those who attended say, nothing transpired of interest, and no changes in the ruling quotations were made. The following are quoted: $3 15 for round lots and $3 25@3 35 for smaller quantities, according to style of packing and size of order.

Quicksilver Vermilion has been selling fairly well, all orders being of a jobbing character. A meeting of the manufacturers was held on Tuesday and as a consequence, a reduction of five cents is noted in prices. The ruling figures now are 60c per lb, in kegs of 100 lbs or over, and 61c in bags of 30 or 50 lbs.

BLUES

The market for blue pigments shows no particular change from last week, except perhaps in the volume of the trading, which has been somewhat better, though of no great proportions. There have been no specially interesting features noticeable, and no changes in the quotations are noted. They are: 20@30c for Prussian blue, according to quality, and 48½@50c represents the range on Chinese. Other blues continue to be held about steady at our quotations.

YELLOWS

Dealers are still booking orders for delivery up to July on N M B ochers at $1 35. There have been numerous arrivals, but the stocks have been sold some time ago, and will go into consumption. On French washed we are unable to note any interesting features. American has been selling fairly well, while sales of 350 bbls are reported within the range of previous quotations.

GREENS

On green pigments there has been nothing of special importance doing. The fair jobbing demand which has been reported for the balance of the market has been felt in greens, and they have received their full share of attention. On Monday, as anticipated, the paris green manufacturers issued their circular and price list, which we give in full below: Arsenic, kegs or casks, 16¾c; kegs, 100 to 150 lbs, 17¼c; 14, 28 and 56 lb iron cans or boxes, net weight only, 18¾c; 2 to 5 lb paper boxes, 18¾c; 1 lb paper boxes, 19¼c; ½ lb paper boxes, 21¼c; ¼ lb paper boxes, 23¼c. Free on board at New York, Philadelphia Boston or Springfield, Mass. 1 to 5 lb tin boxes put up to order at an advance of ¼c per lb

MasterCar & Locomotive Painters' Association

OF THE

United States and Canada.

Secretary's Office:

KENT, OHIO.

FEBRUARY 17th, 1888.

Messrs. Harrison Bros. & Co.,

Philadelphia:

DEAR SIRS.—I desire to acknowledge receipt by express, of sample of your new Tuscan Red in japan, but I have delayed reporting on it until tested, which I have done in a practical way to my entire satisfaction, and am pleased with the color. I find it finely ground; it is of good body, and dries well; I added about a tablespoonful of raw oil to one pound. It is certainly the best Tuscan Red I have handled in some years, and I have never had its equal in paste form.

Very truly yours,

(Signed) ROBERT McKEON.

C. H. HOWELL & CO.,

Color Makers

99 Maiden Lane, New York

212. 214 & 216 Race St., Phila., P

THE JEWETT WHITE LEAD CO.,

JEWETT & SONS PERFECTLY PURE WHITE LEAD

28 Burling Slip, NEW YORK.

J. A. DEAN & CO. PERFECTLY PURE LINSEED OIL

J. A. DEAN & CO.,

LINSEED OIL,

AND

LINSEED CAKE.

181 *Front Street, New York*

The Beymer-Bauman Lead Co.,

CORRODORS AND MANUFACTURERS OF

WHITE LEAD,

ESTABLISHED 1867. DRY AND IN OIL.

BEYMER-BAUMAN STRICTLY PURE WHITE LEAD CO. PITTSBURGH

Red Lead, Litharge & Orange Mineral

Of Superior Quality, made with Natural Gas Fuel rendering them Absolutely Free from Sulphur

Office, Hamilton Building, 91 Fifth Avenue,

PITTSBURGH, PA.

INCORPORATED 1887. Boston Branch, DEXTER BROS., 57 Broad St.

SUCCESSORS TO

Mordecai Lewis,

Established 1772.

We are prepared to supply the Trade promptly, with our long established and reliable brand of

Pure White Lead IN OIL,

unsurpassed for whiteness, fineness, and body.

ALSO,

JOHN T. LEWIS & BROS. WARRANTED PURE WHITE LEAD PHILADA.

TRADE MARK.

Painters' Colors, Orange Mineral, Red Lead, and Litharge. Oxides FOR Varnish Makers and others

Requiring Pure Goods A SPECIALTY.

LINSEED OIL,

Raw, Boiled and Refined

Anchor White Lead Co.,

CINCINNATI,

ANCHOR WHITE LEAD WORKS. GOSHORN BROS. PURE CINCINNATI, O. Established 1828.

Pure White Lead.

RED LEAD, LITHARGE

Agents for New England, E. & F. KING & CO Boston

THE BRADLEY WHITE LEAD CO

174 FRONT STREET,

Brooklyn, N. Y.

AGENTS FOR

Sissons Brothers & Co.

HULL, ENG.,

Manufacturers,

GOLDEN OCHRE, PARIS WHITE

PATENT DRYER, TUSCAN RED INDIAN RED,

VENETIAN RED. AND COLOR

Leesmith & Co.

86 Beekman St., New York.

AGENTS FOR

Henry Grace & Co.

LONDON

MANUFACTURERS OF

WHITE LEAD

ETC.

PAINTS FOR GRINDERS' USE

IMPORTERS OF

English White Lead, Ochres, Umbers, Siennas, Indian and Venetian Reds, and China Clay, V. M. French Zinc, Refined Yellow Beeswax.

We claim to have Our Paints for Grinders of the Best Quality and Most Finely Prepared.

TAKE NOTICE.

That the names **"Refined,"** and **"Floated,"** and **"Cream Floated,"** by which the Trade identifies certain articles of commerce, are our registered **Trade-Marks.** The Director of the United States Geological Survey and Chief of Division of Mining Statistics, in the latest Official Report, issued at Washington, D. C., 1885, on page 922, under head of Mineral Paints, after reporting that American Barytes is softer and better than the foreign, and that the State of Missouri ranks first in the production of the American ore, ontinues the Report in the following words and commas, namely :—]

"At St. Louis, Missouri, the Page & Krausse Manufacturing and Mining Company prepare a "floated barytes" which is in considerable demand. This variety of barytes is found to be much finer than that which is simply ground.'

Having invented the processes of manufacture which have made the said articles so popular, and having introduced and popularized them under the names aforesaid, and having for many years publicly advertised these facts, we have *lawful property* in said names. And on any goods, invoice, or quotation but ours, they are a *prima facie* fraud.

Page & Krausse Mfg. and Mining Co.

The Largest Works in the World.

Established 1849.

L. MARTIN & CO.,

226 Walnut St., Philadelphia, Pa., U. S. A.

2nd. Floor Front.

Manufacturers of

LAMP BLACK

OF ALL GRADES,

AND

Patent Hydro-Carbon Gas Black.

SILVER MEDALS awarded by the Franklin Institute, 1853; Massachusetts Charitable Mechanics Association, Boston, 1860; American Institute, New York, 1867; and Franklin Institute November, 1874; also Diploma and Medal by International Exhibition, Philadelphia, 1876.

Beware of Fraudulent Imitations. All our Brands are Registered.

Sole Agents and Correspondents for

THE PHŒNIX CARBON CO., LUDLOW AND KANE, PA.

THE NEFF DIAMOND BLACK CO., GAMBIER, O.

J. C. FINCK & CO.,

Manufacturers of

Water Floated Barytes

REFINED AND SECONDS.

Carbonate of Lime, Marble Dust,
Putty Powder, "VOLATILE" Soap Filler.

ST. LOUIS, MO.

Office, No. 101 Barton St. Works, on St. L., I. M. & S. R. R.

CORRESPONDENCE SOLICITED.

AM. BRONZE POWDER M'F'G CO.

Manufacturers of Superior Grades of

BRONZE POWDERS & BROCADES,

And their unexcelled and justly celebrated

LINING BRONZES, AND ALUMIUM SILVER BRONZE,

To which the attention of the Wholesale Trade is respectfully directed.

Factory at Verona, Essex Co., N. J.

Office and Salesroom, 6 MURRAY ST., NEW YORK.

WADSWORTH, HOWLAND & CO. OUR BOSTON AGENTS.

CHARLES MOSER. FRED. RENNER

CHARLES MOSER & CO.,

59-63 Main St., CINCINNATI, O. **254 Pearl St. NEW YORK.**

MANUFACTURERS OF

COLORS,

DRY, IN OIL AND JAPAN AND PULP.

ARTISTS' OIL COLORS

IN PATENT COLLAPSABLE TUBES.

White Lead and Zinc White

THE CELEBRATED

"Economy" Ready Mixed Paints,

QUICK DRYING CARRIAGE PAINTS,

ETC., ETC.

Agents for our Tube Colors

FOR THE PACIFIC STATES,

SULLIVAN, KELLY & CO., San Francisco, Cal.

PURE PARIS GREEN

MANUFACTURED BY

Hampden Paint & Chemical Co.,

SPRINGFIELD, MASS.

Before Placing Your Orders for 1888 Write us for Prices.

NOLEN & BOARDMAN
SUCCESSORS TO CARBON BLACK CO.
CARBON
BLACK
GAS BLACK
MADE UNDER LETTERS PAT. OF SEPT. 1872, MAR. 1875, MAY 1881.
5 BEEKMAN ST. TEMPLE COURT. ROOM 171. NEW YORK.

PAINT YOUR BUGGY FOR

ONE DOLLAR!

—WITH—

DETROIT WHITE LEAD WORKS'

CARRIAGE BLACK.

If you wish your gear in color, use our WINE COLOR, VERMILION, YELLOW or GREEN.

The original and best Ready-Mixed, Varnish Gloss,

CARRIAGE PAINTS.

Four years uninterrupted success and not a single complaint.

COLORS FOR GRINDERS AND MANUFACTURERS.

LOW PRICES BEST QUALITY

JOHN LUCAS & CO.,

Philadelphia 141 & 142 N. 4th St.; 322 to 330 Race St. WM. E. LUCAS, 89 Maiden Lane. New York

over paper boxes of similar sizes. ⅛ and ¼ lb not packed in tins under any circumstances. Terms, payable July 1st, 1888. Discount, 6 per cent per annum for unexpired time. No brokerage or commission allowed to buyers. Rebates subject to rules and regulations made in conformity with the request of the National Wholesale Druggists' Association. To buyers of pure Paris green, purchased from manufacturers who have conformed with the desire of the Druggists' Association, of 500 to 1,000 lbs during the season, ½c per lb; of 1 000 to 2,000 lbs during the season, 1c per lb; of 2,000 to 4,000 lbs during the season, 1½c per lb; of 4,000 to 10,000 lbs during the season, 2c per lb; of 10,000 lbs and over during the season, 2½c per lb. To buyers of 5 tons or over, at one time, an additional rebate of ½c per lb will be allowed. The manufacturers also make the following announcement: The Associated manufacturers of Paris Green, in accordance with their previously expressed intentions, now announce that the prices for strictly pure Paris green (the only quality made by them) are fixed for the present, as per annexed price list, at which prices it will be charged to the buyer, subject to the rebates established.

The rebates are not to be paid by the individual firms of the association, but by the rebate treasurer, C. N. Manchester, of New York, and upon the written statement of the buyer that our established prices, terms, etc., have been strictly maintained. On purchases made prior to and paid for July 1st the rebate will be paid as soon after that date as practicable, and on later purchases as soon as bills are paid.

It must also be distinctly understood by dealers, that when they put up paris green in small packages, whether in paper bags, boxes, or any other style of package, the same price must be charged as established for similar sized packages. Any deviation from the said prices or terms is a violation of the rules, and subjects the party so selling to a forfeiture of the rebate.

It being the desire of the association that consumers shall receive a pure article, any parties buying pure paris green for the purpose of adulterating it, and offering on the market a lower grade, will suffer the loss of the rebate.

These are the conditions upon which the rebate is offered and accepted by the buyer, and it will not, under any circumstances, be paid to parties who have violated them.

Deliveries East.—Sell only f o b New York, Philadelphia, Boston and Springfield, Mass., at these prices.

Deliveries West.—On all sales made by jobbers from points west of the Alleghanies and New York State, not less than ½c per pound must be added.

We call attention to the fact that the sole design in the establishment of the above rules is to assist the trade in obtaining a reasonable profit in the handling of this necessary but poisonous article without disturbance from cutting of prices. In accordance with the expressed wishes of the National Wholesale Druggists' Association, we reserve the right to decline to supply Paris Green to those who will not maintain our prices and terms, or who encourage parties that disturb the market.

Miscellaneous.

Sulphate of Barytes—There has been a somewhat better demand since we last wrote, but no special activity exists: Prices are unchanged from last week, being quoted as follows: $21 50 for special brands of imported, best No. 1 at $17 50@18 50, according to quantity, best off color grades at $15. No. 2 at $14, and No. 3 at $12 50.

Chalk—On this article the situation is unchanged. No cargoes are offering and the demand is rather limited, although if a good cargo were to be offered at a tempting price, it could be disposed of. The quotations continue at $2 7f@2 90.

China Clay—There has been a perceptible increase in the trading since we last wrote, and a little more activity has been noticed. The finer grades are still rather scarce. American continues in steady demand at $11 50@12.

Talc is devoid of interesting features. Trading has been going on in a matter of fact way and nothing outside of jobbing lots have changed hands. Prices are at old figures.

Terra Alba has been in slightly better demand, but no large transactions can be noted. Our former quotations continue to rule, and are as follows: 75@80c for French, 70@75c for American No. 1 and 45@50c for No. 2

Whiting continues scarce and in good demand, and dealers assert that higher prices will rule in the near future. The market is firm at 45@50c for commercial, and 60@65c for gilders.

Glues.

There is some improvement, with the brighter weather, but the spring trade is backward and slack. Prices continue to be well maintained and there is no disposition to force the market.

Glass.

WINDOW GLASS.

Trade is steadily improving in the window glass market as the season advances, but there is nothing in the prevailing conditions to call for special comment at this time. A firm feeling prevails in both the domestic and importing branches and prices are without change. The discounts on American remain 70 & 5 per cent for both single and double and on French 70, 10 & 5 per cent to

A. C. PRINCE, President.
DAVID PRINCE, Sec'y and Treas.
(Sons of the late ROBERT PRINCE, Original Manufacturer.)

THE
Prince M'f'g Co.
71 MAIDEN LANE, NEW YORK,
SOLE MANUFACTURERS OF

ESTABLISHED 1858.
An Indestructible Coating for TIN, IRON and WOOD.
BUT ONE COLOR MADE
BROWN.

Chilton Paints
COLORS IN OIL AND JAPAN.
Chilton Manuf. Co.,
147 Fulton St., New York.
141 Milk St. Boston.

RUTHERFORD'S
METALLIC BROWN.
Guaranteed the Best Paint in the market for
TIN, IRON AND WOOD.

Contains No Grit.
Unequalled in Fineness.
Most Economical Material for
COLORING MORTAR.
Address all communications to
RUTHERFORD & BARCLAY,
MINERS AND MANUFACTURERS,
305 Chestnut St, Philadelphia.
Mines: Stony Ridge, Carbon Co., Pa.
Works: Lehigh Gap, Pa.

GABRIEL & SCHALL,
IMPORTERS OF
CRUDE AND POWDERED (SW009) BARYTES,
Dry Colors, Blanc-fixe, Chloride of Barium, Nitrate of Barytes and Strontian, Borate of Manganese, Portland Cement, Asphalt Mastic, Fire Bricks, &c.
205 PEARL ST., NEW YORK.

Red Oxide of Iron.
Warranted Unequalled in Body, Strength and Fineness.
65 Per Cent. Iron AND Free From Sulphur
Grinds smoothly with 18 lbs. oil to 100 lbs. oxide.

Clinton Red Hematite,
For coloring Mortar, Brick, Tile, etc., equal to Turkey and Florentine Red.

The Clinton Metallic Paint Co.
CLINTON, N. Y.
Branch Offices:
299 PEARL ST., NEW YORK, and 42 N. 4th ST, PHILADELPHIA, PA.
Agents for Mortar Color in Boston:
FISKE, COLEMAN & CO., 62 Congress St

VANHORNE, GRIFFEN & CO.
IMPORTERS OF
FRENCH WINDOW GLASS and GERMAN LOOKING GLASS PLATES
MANUFACTURERS OF BENT GLASS.
131-137 FRANKLIN ST., NEW YORK.

FACTORY.
Lieb St. from Transit R. R. to River Front.

Manufacturers of
COLORS
Dry, in Pulp, in Japan, in Oil and in Distemper. Sole Manufacturers of Maple Leaf Permanent Green, Peninsular Permanent Red, Peninsular Non-Corrosive Steel, Color Paints.
Peninsular Wood & Iron Fillers.
Special inducements offered to large buyers on Vermilions, Chrome Greens and Yellows, Prussian, Chinese, Steel and Soluble Blues, etc.
CORRESPONDENCE SOLICITED.
FARRAND, WILLIAMS & CO.,
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General Agents.

French Auxerres Ochres.
We offer direct shipment from the works, at Manufacturers figures, Meas. Farçu Gauchery & Zagorowski, Auxerre, Burgundy, French Ochres J.C. J.C.L. J.C.L.S., J.F., J.F.L. and J.F.L.S. in lots to suit.

DOGGETT BROS.,
BROKERS AND MANUFACTURERS' AGENTS IN
PAINTS, OILS AND CHEMICALS,
138 & 140 Maiden Lane, New York,
65 No. Front Street, Philadelphia,
112 Randolph Street, Chicago
Special Correspondents in all the principal domestic and foreign markets
Manufacturers' Selling Agents for Linseed and Cottonseed Oils,
Foreign and Domestic Umbers, Ochres and Siennas
Paint and Color, Oil Cloth, Paper and Wall Paper Manufacturers' Supplies and Clays a specialty

RICKARD & HEWITT,
Grinders and Manufacturers of
"NANTAHELA" TALC.
E. O. MURDOCK & CO., 104 John St. N. Y
SOLE AGENTS.
Quotations and Samples on Application.

WALTON'S MAROON OXIDE PAINT
Handsome Color! Great Covering Capacity! Wears Like Iron!
E. O. Murdock & Co., Agents,
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Manufacturers of
VENETIAN REDS
WORCESTER MASS.

EARLE & PRINCE, 71 Maiden Lane, N. Y.,
SOLE AGENTS FOR
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52 BEEKMAN STREET, NEW YORK.
HOYLE, ROBSON & CO., Newcastle England.
H. H. . F.V.A **Venetian Red.**
Bright Oxide, Indian Red, Tuscan Red Drop and Ivory Blacks &c

JAMES P. BARNETT,

Importer and Manufacturer of Colors,

SPECIALTIES

OXIDE OF ZINC,

(FRENCH PROCESS.)

Lakes and Ruboide Vermilions,

Lowe's Carbolic & Cresylic Acids,

Colors for Wall and Glazed Papers,

NEW YORK OFFICE, 178 Front Street.

MAIN OFFICE AND FACTORY, 278 Passaic Street, Newark, N. J.

Established 1807.

Manhattanville Color Works,

D. F. TIEMANN & CO.,

MANUFACTURERS OF

English" or "California" **Quicksilver Vermilion,**

Pure No. 40 Carmine.

Soluble Blue, Paints and Colors,

Dry, in Oil, and in distemper,

Colors for Paint Grinders a Specialty.

Office, { 16 MURRAY ST., 19 PARK PLACE. | Factories, { MANHATTANVILLE, NEW YORK.

Edward Hill's Son & Co.,

25 & 27 Cedar St., N. Y.,

Varnish Gums and Shellac.

Kauri, Zanzibar. Manila. Damar, North Coast, Sierre Leone, Benguela, Asphaltum. Sandarac.

WILLIAMSBURG PAINT AND COLOR WORKS.

EDWARD HORE,

ANUFACTURER AND IMPORTER OF

COLORS.

VERMILIONS, LAKES. &c.

Specialties for Grinders, Paper Mfrs., Tissue Printers, ETC.

FACTORIES. Brooklyn, L. I. CHAS E HORE, Supt.

OFFICE, 62-68 North 11th St., BROOKLYN, E. D.

CHATTANOOGA PAINT CO

Chattanooga, Tenn.

MANUFACTURERS OF

A Superior Grade of Red Oxide of Iron Paint.

Over 15,000 Tons Sold since 1880.

Best in the Market for Tin, Iron or Shingle Roofs,

Railroad Cars, Iron Bridges,

Mortar Coloring. Stove Putty,

Barns, Fences,

Outbuildings or any place where protection from the weather is desired.

Prices, Freight Rates and Samples Sent on Application.

MANGANESE

For Varnish Makers, Oil Boilers, Steel Manufacturers, Potters and the Trade generally—Powdered, Bolted or Granulated in any size.

—ALSO—

BORATE OF MANGANESE.

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Miners, Importers and Exporters,

No. 174 High St., Boston.

MINES: KINGS CO., NEW BRUNSWICK.

Strictly Pure Paris Green.

QUICKSILVER VERMILION.

CHROME GREENS AND YELLOWS.

CARMINE.

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CHINESE AND PRUSSIAN BLUES.

Bronze Powders.

S. & A. London Gold Paint.

ESTABLISHED 1857.

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DIAMOND METHAL

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WOOD ALCOHOL.

Perfect substitutes for Grain Alcohol for all mechanical purposes.

Binghamton, N. Y.

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Genuine French Orange Mineral.

TOURS' BRAND.

Is the finest, most brilliant and lasting in the World for Vermilion Manufacturers, &c

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S. S. F. Strictly Pure

Paris Green,

Chrome Greens & Yellows, Chinese, Prussian & Soluble Blues.

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MAGNESIA GREEN,

Corner Maiden Lane & Pearl St., NEW YORK.

Chicago Branch, 201 Randolph Street.

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FOOT CASE AVE., CLEVELAND, O.

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MANUFACTURERS OF

DRY COLORS.

A. A. Vermilion, (Perfect Imitation / Eng. Vermilion.)
Oriental Vermilion,
Persian Red,
Imp'd American Vermilion,
AND
Vermilion of lower qualities.

Chrome Yellow, ALL QUALITIES
French Standard Green. ALL SHADES.
Chrome Green, ALL SHADES.
Pure Chinese Blue,
Pure Prussian Blue.

A FULL LINE OF SUPERFINE COACH COLORS.

AND

Coach, Carriage & Car Varnishes

OIL WOOD STAINS,

OLD OAK, MAHOGANY, CHERRY, COCOBOLA, WALNUT, ROSEWOOD, EBONY.

Oil Colors, Mixed Paints, Tinted Paints, in paste form.

Descriptive Circulars and Samples furnished on application.

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FACTORY: Astoria, L. I.

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Bleached and Refined Shellacs
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BUY THE BEST

C. A. WOOLSEY'S
Standard Mixed Paints.

THESE PAINTS ARE MADE WITH

PURE LINSEED OIL.

DEALERS AND PAINTERS are all of one opinion that WOOLSEY'S MIXED PAINTS are the best in the market. Why are they the best?

Because they are honestly made; containing NO BENZINE, WATER or CHEMICALS, and weighing from 16 to 17 lbs. to the gallon, and owing to their great body they will bear reducing with from 1 to 2 quarts of oil to the gallon on all priming or first coat work.

Our Mixed Paints after a thorough trial of fifteen years have proven to be well adapted to all the varied climates of our coast. The salt air is considered by all to be the most destructive agency for paints to withstand, and we can with confidence guarantee our paints to be durable, as they have successfully made a reputation where many so-called pure linseed oil paints have failed.

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Agency for these goods are given to responsible parties and they are protected in the sale of the same in their territory. Correspondence is solicited, when prices, terms, &c., will be given. The manner in which our colors are displayed in oursample pad of colors all help the sale of these goods. OUR GUARANTEE as to general merits and worth also tends to convince the purchaser that he is fully protected in using these paints and the dealers are put in position to guarantee the same. Yours respectfully,

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THE WALKER GUM CO.

WALKER'S well known VOWEL BRANDS OF KAURI AND OTHER

VARNISH GUMS,

GILBERT POTTER & CO.

SOLE AGENTS,

164 Front St., NEW YORK.

All Paris White Sold or Delivered is the Production of my own Factory.

WESTMINSTER

ENGLISH CLIFFSTONE.

PARIS WHITE.

"WESTMINSTER" PARIS WHITE.

The Standard Brand, always of uniform quality.

Whiting, Gilders' Whiting

AMERICAN PARIS WHITE, LUMP CHALK.

Also, Kiln Dried and Bolted Whiting, superior to any other manufactured for the use of Rubber and Oilcloth Manufacturers.

H. F. TAINTOR,

(Successor to Thos. Weddle & Co,)

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A VARNISH

NOT AFFECTED BY

AMMONIA

Arising in the stable, at the same time having a sharper luster than any Imported or American Varnish that has yet come to our notice.

Every can is sold with a guarantee that the Varnish will not be affected by Ammonia, as stated above, and

Will Cloud or Smoke Up Less

than any other Varnish. This is true of both our Gearing and Finishing Varnish. Address:

GRACE & CO.,

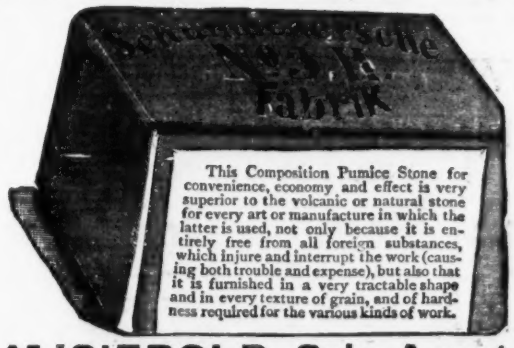
MANUFACTURERS

122 to 126 Larrabee Street, CHICAGO.

After Trying our Varnishes, if for any reason whatever you wish to return them, you can do so at our expense.

CORRESPONDENCE SOLICITED.

COMPOSITION PUMICE STONE.


This Composition Pumice Stone for convenience, economy and effect is very superior to the volcanic or natural stone for every art or manufacture in which the latter is used, not only because it is entirely free from all foreign substances, which injure and interrupt the work (causing both trouble and expense), but also that it is furnished in a very tractable shape and in every texture of grain, and of hardness required for the various kinds of work.

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PARIS GREEN,

Chrome Greens, and Yellows, Blues, Carmine, Lakes, Etc.

DRY AND PULP COLORS, QUICKSILVER VERMILION,

"ORIOLE" VERMILION, (The Best Substitute for English Made.)

FACTORY: Atlantic Color Works, Brooklyn.

OFFICE AND STORE: 165 William St. New York.

Manganese,

ASPHALTUM,

VARNISH GUMS. &C.

JOHN S. LAMSON & BRO., 77 Maiden Lane, New York.

buyers of less than 25 boxes, with an extra discount of 5 per cent to buyers of 25 to 200 oxes and of 10 per cent to buyers of over 200 oxes, provided the purchases have been made during the calendar month. It is immaterial whether purchases are confined to one house or distributed among all the importers.

PLATE GLASS.

The plate glass market remains firm but is without notable change. Dealers report an improving and brisk demand for both French and American, with the discounts ranging from 60&5 to 60&15 per cent according to sizes wanted.

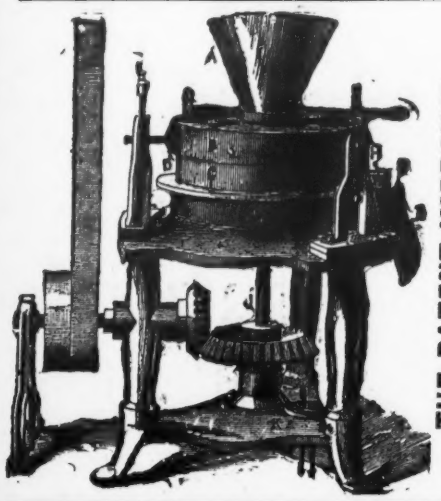
RECENT PATENTS.

379,589. SELF-HARDENING CEMENT. Filed Nov. 4, 1887. Issued March 20, 1888.

Claim.—The herein described composition of matter, consisting of silica and water-glass—i. e., sodium or potassium silicate—to which my hydraulic cement may be added, substantial y as and for the purpose specified.

379,752. APPARATUS FOR THE MANUFACTURE OF SODA. Filed Sept. 15, 1886. Issued March 20, 1888.

379,808. MACHINE FOR EXTRACTING OIL FROM WOOL. Filed Sept. 21, 1886. Issued March 20, 1888.



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Paint and Color Mills,
THOMPSON & CAMPBELL,
Successors to Kreider, Campbell & Co.
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MANUFACTURERS OF
ALL KINDS OF PAINT MACHINERY.
Contracts taken for new work, entire or in part.

The Ridler Co
TORONTO ONTARIO
Are Headquarters for Pure Spirits Turpentine, Varnishes, Japans, Dry Colors, Mixed Paints and **Naval Stores.**
Correspondence Solicited.

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KEROSENE BURNERS,
LAMP TRIMMING, LAMPS, LANTERNS &c.,
Factories, WATERBURY, CONN.
WAREHOUSES:
18 MURRAY ST., New York. 109 LAKE ST. Chicago. 18 FEDERAL ST Boston.

GLASS PHILLIP SEMMER & COMPANY. PLATE, SHEET & LOOKING GLASS Depot No 4 6 8 & 10 DESBROSSES ST. NEW YORK. WRITE FOR QUOTATIONS.

Beware of Imitations!
AS SUCH ARE ABOUT TO BE PUT INTO MARKET
PURPORTING TO BE
The Harris Paint Mill
OR IMPROVEMENT THEREON.

Having purchased the late Oliver C. Harris Paint Mill Manufactory, with all patterns from the commencement of his Paint Mill business to the present time, and will in trade. Would respectfully call attention of Paint Mill dealers, when in want of GENUINE HARRIS, or IMPROVED BERRILL PAINT MILL, or repairs for same. All sizes. Also Water Cooled Mills for Coach Colors. Composition mills for Water Colors. Single and on Bench. Any number run by One Belt, to address

J. A. BERRILL & SON,
ESTABLISHED, 1837. WATERVILLE Oneida Co. N. Y.

HENRY WOOD'S SON & CO.,
SOLE MANUFACTURERS OF THE CELEBRATED
MARSEILLES GREEN
Boston, Mass.
Look for Advertisement in our Next Number.

Established 1836.
JOHN J. BUDD,
MANUFACTURER OF
WHITING FRESCO, PUTTY, &c.
149 Bank Street, New York City.

For 1st Coat, one pint of water to a Pound.
MANUFACTURER
For Whitening and Coloring Walls, Ceilings, etc.
Mix with hot water and use when cool.
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Registered TRADE MARK.
For 2d Coat, one pint and a half of water to a pound.
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COOKSON'S
Venetian Red,
THE LEADING BRAND.

This article is Superior in Strength, Color and Fineness to all other makes, and owing to improvements in its manufacture is now better than ever before. It is handled by all the leading Color Houses throughout the country.

Special prices and terms for round lots can be had from the Agents,

EDWARD HILL'S SON & CO.,
25 & 27 Cedar Street, NEW YORK.

Established 1828.
The J. O. SMITH Mfg. Co.
MANUFACTURERS OF
Japan, Japanned Tin and Iron Plate,
FOR SIGNS.
WOOD AND METAL PANELS,
ARTIST SKETCH BOXES, ETC.
Price List on Application.
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Hoyle, Robson, Barnett & Co
Late, HOYLE, ROBSON & CO.,
Newcastle-on-Tyne, ENGLAND.
Iron Oxides and Colors for Grinders and Jobbers.
J. W. BINNEY, Sole Agent, 227 Pearl St., NEW YORK.

BELKNAP STANDARD PUTTY WORKS.
The Oldest Putty Establishment in the United States.
E. S. BELKNAP'S SON, Proprietor,
Near Maiden Lane. No. 8 Gold St. New York

THE J. H. MORLEY LEAD CO.,
ESTABLISHED 1863.
J. H. MORLEY & CO. STRICTLY PURE WHITE LEAD CLEVELAND. O.
INCORPORATED 1887.
Corroders and Manufacturers
—OF—
WHITE LEAD,
RED LEAD AND LITHARGE.
CLEVELAND, OHIO.
AGENTS FOR NEW ENGLAND,
A. L. CUTLER & CO., Boston, Mass.

ESTABLISHED 1832 TRADE VALENTINE'S MARK VARNISHES 1882 INCORPORATED

Valentine & Company NEW YORK

MANUFACTURERS OF

CHICAGO · BOSTON · PARIS ·

COACH & CAR VARNISHES & COLORS

SOUTHERN COMPANY TRADE MARK WARRANTED STRICTLY PURE WHITE LEAD IN OIL OF ST LOUIS & CHICAGO.

Southern White Lead Co.,

Manufacturers of Strictly Pure

White Lead, Red Lead and Litharge,

ST. LOUIS AND CHICAGO.

FACTORY IN ST. LOUIS, Corner Main and Lombard Sts.

FACTORY IN CHICAGO, Corner 16th & Brown Sts.

McBIRNEY & JOHNSTON Co. STRICTLY PURE WHITE LEAD CHICAGO

We desire to call attention to the fact that the Southern White Lead Co. now has two factories, one in St. Louis and the other in Chicago.

The "Southern Company" Brand of Strictly Pure White Lead will be manufactured in St. Louis and Chicago by the same chemical and Mechanical processes, both factories being under the same careful and experienced superintendence, and are fully equipped with the most modern improvements and appliances for the economical and perfect manufacture of the product. Great care is taken in the selection of the Pig Lead and Oil, also in corroding, washing floating, drying and grinding the product, so that it is of a uniform color, body and texture, and as twenty years' experience has shown, pleases in every respect the most experienced and particular painters. We call your special attention to our Brands at the head of this sheet.

Every package of our Lead bears a guarantee of its absolute purity, printed in crescent shape. *And as the Company manufactures only strictly Pure Lead*, parties buying White Lead branded "Southern Company" *can make no mistake*, and are *absolutely sure* of obtaining a *perfectly pure article.*

The Company as successors to the business of the McBirney & Johnston White Lead Company of Chicago, will also manufacture and continue to sell the "*McBirney & Johnston Co.*" *Brand of Strictly Pure White Lead*, which has been largely sold and has acquired a fine reputation.

As St. Louis and Chicago are the two best distributing points for the South, West and North-West, we can quickly and economically reach all the Trade in these sections, shipping from either city as may be most convenient in time, and cheapest in freight rates to the buyer.

We hope to merit a continuance of the patronage and good will of the dealers in and consumers of White Lead, which we have enjoyed so long.

SOUTHERN WHITE LEAD CO., Cor. Main & Lombard Sts., St. Louis, Mo. SOUTHERN WHITE LEAD CO., Cor. 16th & Brown Sts., Chicago, Ills

Acme White Lead and Color Works

DRY COLOR MAKERS AND PAINT MANUFACTURERS,

DETROIT, · · · · · MICHIGAN

Chinese Blue.	Chrome Yellows.	Vermilion.
Prussian Blue.	Chrome Greens.	Lakes.
Soluble Blue.	Paris Green.	Wine Colors.

Equal in Every Respect to the Finest Imported French Pigments.

Quality Absolutely Unsurpassed.

CORRESPONDENCE SOLICITED. SAMPLES ON APPLICATION.

CHAS. M. JUNE, General Eastern Agent, 359 Pearl Street, NEW YORK.

THE

GOVERNMENT WATERPROOF PAINT CO.

MANUFACTURERS OF

GOVERNMENT WATERPROOF PAINTS,

BELT DRESSING AND CEMENT.

This Paint retains a beautiful gloss without a particle of Varnish in it, and will stay on Spruce where all other known paints fail to stay but a short time.

It contains a pigment which renders it thoroughly **WATERPROOF** and unlike all other known paints possesses in a remarkable degree immunity from harm when subjected to attack from ammonial vapors. Our Belt Dressing and Cement are unequalled.

Office, 167 Milk Street, BOSTON, MASS.

Factory at MALDEN, MASS.

CORRESPONDENCE SOLICITED.

YELLOW OCHRE

Of Most Superior Quality.

The product of our own extensive Mines and Mills, carefully prepared under the supervision of a skillful and experienced manager.

SAMPLES AND PRICES FURNISHED THE TRADE ON APPLICATION.

GAYLE & SEMPLE, MONTGOMERY, ALA

VARNISH MAKERS. PRATT & LAMBERT

PRATT'S LIQUID DRYER. 47 JOHN ST. NEW YORK.

JOHNSTON'S
DRY SIZED
KALSOMINE
AND
FRESCO PAINTS.
FOR
Coloring Walls and Ceilings.

READY FOR USE.

ABSOLUTELY RELIABLE!

Gold Medal, New Orleans, 1884-5.

EIGHT FIRST-CLASS AWARDS.

CHEAPER than WALL PAPER or OIL PAINT.

Pure White, and Beautiful Tints.
Will not rub or scale from the Wall.

Invaluable for cleansing and **disinfecting walls** impregnated with germs of disease.

Mixed in five minutes ready for the brush, by the addition of water only.

Five pounds will cover with a good body, 500 square feet, on hard finished walls. Ask for

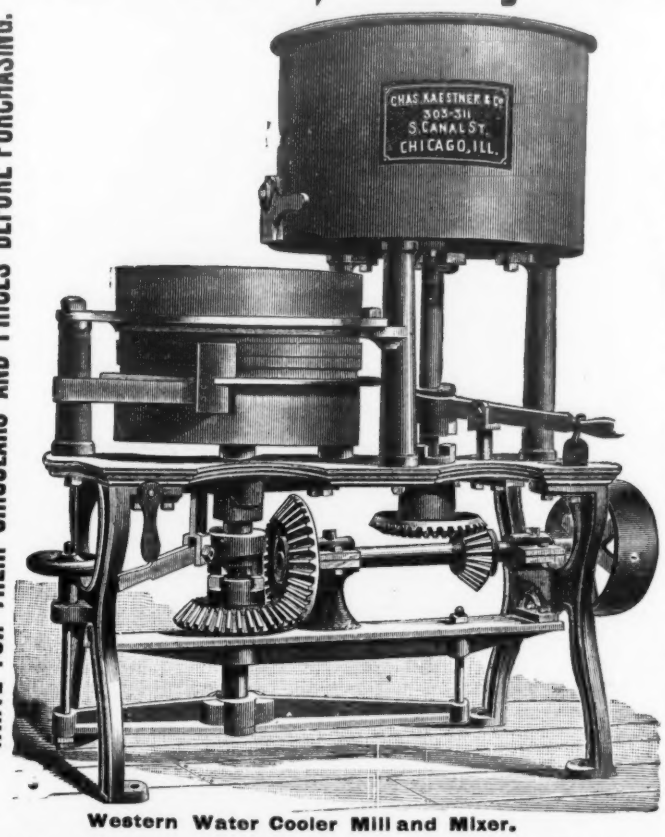
"JOHNSTON'S Dry Sized KALSOMINE,"

and see that you **do not get any poor substitute.** For sale by Paint and Drug Dealers everywhere. Send for sample card and prices to

DRY KALSOMINE AND FRESCO PAINT WORKS,
25 & 27 John St., Brooklyn N. Y.

CHAS. KAESTNER & CO.,
BUILDERS OF
Paint Mills, Putty Mills,

WRITE FOR THEIR CIRCULARS AND PRICES BEFORE PURCHASING.



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Western Water Cooler Mill and Mixer.

Chasers, Mixers and all Machinery used in Paint Manufacturing.
OFFICE AND WORKS:
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BURGESS&NEWTON
NEW HAVEN, CONN.,
MANUFACTURERS OF
FIRST QUALITY
Pure Sulphate Barytes.
Would call the attention of Buyers to the
SUPERIOR QUALITY OF OUR MANUFACTURE.

New York City White Lead Works,
DAVIDSON & KNOWLES CO., Proprietors:
Manufacturers of

White Lead,
Mixed Paints,
Colors in Oil, &c.
The Original DOLSON WHITE LEAD a Specialty.
51 BARCLAY ST., NEW YORK.

REDUCTION IN PRICE
-OF-
Pure Carbonate Ammonia,
LUMP,

Single bbls., from 200 to 300 lbs., - 8 cents per lb
Granulated, 1 cent per lb. extra.
Powdered, 1 cent per lb. extra.

Owing to the increased demand or Powdered Carbonate, we have decided to reduce its price from 2 cents to 1 cent per pound additional; at the same time calling our customers' attention to the advantages and economy in its use over lump.

Our Carbonate is packed in good, tight barrels, sized and lined with cloth, and *we guarantee it equal to any in the market.*

MICHIGAN CARBON WORKS,
Detroit, Michigan.

MARYLAND WHITE LEAD CO. WARRANTED PURE WHITE LEAD CO. BALT. MD.
TRADE MARK

MARYLAND
White Lead Co.,
BALTIMORE, MD.,
CORRODERS AND MANUFACTURERS OF
Dry White Lead and White Lead in Oil
We guarantee all our manufactures to be perfectly pure.
JOHN CURLETT, Presiden
CHAS. KETTLEWELL, Secretary.
Office—25 South Holiday Street.

THE STANDARD MINERAL COMPANY
Miners and Millers of
SILICA, FELSPAR, MARBLE, ETC.
OFFICE: 153 Malden Lane, New York.
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Brandram Bros & Co
5 PHILPOT LANE, LONDON, ENGLAND.
MANUFACTURERS OF THE CELEBRATED BRAND

BRANDRAM'S B.B PURE WHITE LEAD
OUTSIDE BRAND.

BB WHITE LEAD.

Noted for its Extreme Whiteness of Color, Purity and Great Covering property rendering it specially suitable for Painting in Enamel White and other Decorative Work. To be had of all the Principal Importers in the United States and Canada.

BRANDRAM BROTHERS & CO. PURE B.B. WHITE LEAD LONDON
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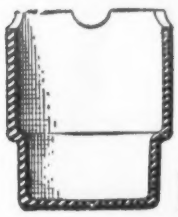
VICTORIA VENETIAN RED, WHITING, BARYTES and a full line of PAINT GRINDERS' COLORS.

THE S. P. WETHERILL CO., Limited. 47 NO. FRONT ST. PHILADELPHIA. 112 JOHN STREET, NEW YORK.

Proprietors of the CRESCENT CHEMICAL WORKS: Sole Agents for the Sale of the LEHIGH ZINC AND IRON CO.'S Products.

PETER H. DECKER



INVENTOR AND PROPRIETOR OF

PATENT

Glass Corroding Pots,

(PATENTED AUG. 24, 1886.)

—AND—

Improved Bed Pipes for Lead Corroding Houses.

ELLENVILLE N. Y.

AUTOMATIC PORTABLE MILLS

For Grinding Mineral Paints, Drop Black, &c., finer than it can be bolted.

WATER COOLED PAINT MILLS

For Colors, Printers Ink, &c.

CHASER MILLS, BORAX MILLS,

Heavy Edge Burr Stones

The only way to Grind Phosphate Rock Cheaply.

Grinding and Bolting Machines of all kinds.

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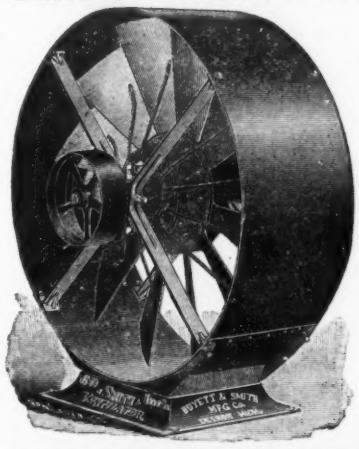
SMITH VENTILATOR AND DRYING FAN.



We pay especial attention to the fitting up of

Chemical and Pharmaceutical Laboratories,

Paint and Glue Factories and White Lead Works,

with Ventilating and Drying Apparatus. Removing Dust, Steam, or Foul Air from work rooms most effectually.

We can Increase the Capacity of Drying Rooms at a Reduced Temperature.

Correspondence and inquiries solicited. Information freely furnished. Send for Circular.

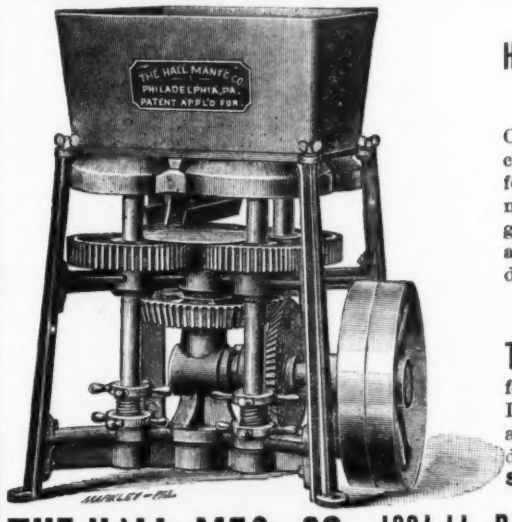
HUYETT & SMITH MFG. CO.,

Sole Manufacturers and Patentees.

No. 1,300 Russell St.,

DETROIT, MICH.

A Revolution in Paint Mills



THE

Hall Quadruple Paint Mill

Occupies only 24 x 24 inches of floor space and has four distinct sets of runners on one stand. Will grind four times as much as an ordinary mill and do it better.

Send for Circular.

The Hall Emery Grinder

for recutting and dressing Iron Paint Mills—Quick and perfect work can be done by a boy upon it.

Satisfaction Guaranteed.

THE HALL MFG. CO. 1201-11 Buttonwood St., Phila.

WOOD ALCOHOL, ACETONE, ACETATE OF LIME, BLACK LIQUOR.

MANUFACTURED BY

WOOD EXTRACT COMPANY,

WORKS AT { North East, Cecil Co., Md. / Luther, Lake Co., Mich.

OFFICES: { Detroit, Mich, 52 Moffat Block, / New York, 150 Broadway, Room 64.

AGENTS:—New York Shellac Co., 229 Pearl St., N. Y.

O. S. JANNEY & CO. { 10 Letitia St., Philadelphia. / 29 Pearl St., Boston.

D. C. LANDIS (for Alcohol only), 17 N. Front St., Phila.

W. C. DePAUW, Proprietor. N. T. DePAUW, Manager.

DePAUW'S AMERICAN PLATE GLASS WORKS,

MANUFACTURE

Polished AND Rough Plate Glass,

Also Single and Double Strength Window Glass, Fruit Jars and Chemicals

Estimates furnished promptly on application.

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GEO. H. HOPPER,

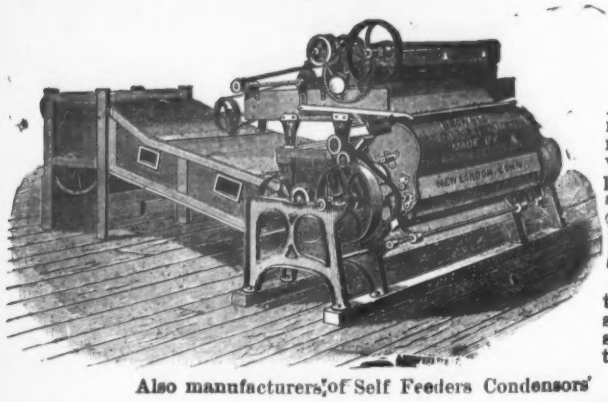
MANUFACTURER OF

PETROLEUM BARREL PAINTS.

OF ALL COLORS.

JAS. G. NEWCOMB, Manager. Office: 26 Broadway, New York.

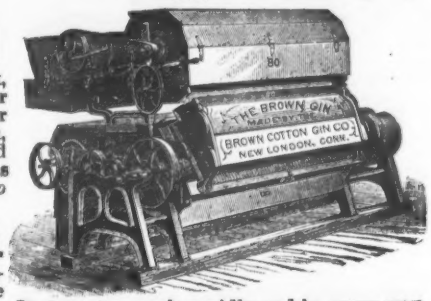
The Brown Cotton Gin Company,



MANUFACTURERS OF

THE BROWN COTTON GIN

Leads all others in quantity and quality of work, in pleasing the buyer, and in sales. The number now in use being nearly equal to any two other makes. It is strong and simple in construction, very durable, gins fast, runs light, cleans the seed perfectly and produces first-class samples. It has all the latest improvements, and is *Guaranteed to give Satisfaction.*



The Brown Cottonseed Linter for Oil Mills.

This machine is specially adapted for use in cottonseed oil mills. It removes the lint left on the seed after they have passed through the cotton gin. It does its work rapidly and in every way satisfactorily. They are made of the best materials in a workmanlike manner. We guarantee them superior in every respect to any machine of the kind in the market.

Also manufacturers of Self Feeders Condensors' for Steam Power, New York Cotton Gin arranged for Hand or Power, etc., etc.

CORRESPONDENCE SOLICITED.

Office and Works, NEW LONDON, CONN

Meriam & Morgan Paraffine Co.

CLEVELAND, O.
Manufacturers of
COLD PRESSED PARAFFINE OILS,
REFINED PARAFFINE WAX,
PARAFFINE WAX CANDLES,
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"PARAGON SPINDLE" OIL,
OILS for GENERAL MACHINERY,
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Direct Receivers, Importers and Dealers in
PURE COD OIL
Newfoundland & Domestic,
WHALE, SPERM, FISH, BANK, STRAITS & MENHADEN OILS.
MEDICINAL COD LIVER OIL
Prices and Samples Furnished.

PARAGON AXLE GREASE

George Delano's Sons.

Sperm, Whale and Menhaden Oils,

Refined Spermaceti, Sperm and Paraffine Candles.
WHALE AND FISH PRESSINGS,
SPERM, WHALE AND FISH OIL SOAPS.
Factory, New Bedford. Mass. 140 FRONT STREET N. Y.

Josiah Macy's Sons,

GENERAL COMMISSION MERCHANTS,
191 FRONT STREET, NEW YORK
Manufacturers of the Celebrated Brand
"Macy's Prime" Lard Oil.

SPERM, LARD, WHALE, COTTONSEED, ELAIN AND RED OIL,
"CLEMENTS" CORN STARCH, IN BOXES AND BARRELS, for Export and Manufacturers use. AGENTS FOR L. Z. O. OXIDE OF ZINC,
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ARCTIC OIL WORKS

MANUFACTURERS OF
Sperm Whale, Elephant & Fish Oils
Spermaceti, Sperm Candles,
WHALE AND FISH PRESSINGS,
SPERM, WHALE AND FISH OIL SOAPS
OFFICE, 28 CALIFORNIA STREET,
San Francisco, California.
S. W. KNOWLES & CO., 82 Front St., New York, Eastern Agents

INGALLS & COMPANY,

(Works, Grand Trunk Junction,)
Illuminating and Lubricating Oils.

AGENTS FOR
Wilson & Evenden's Oil Tanks and Shipping Cans
OFFICE No. 46 JEFFERSON AVENUE - - - DETROIT MICH.
We Will Buy Good Second-Hand Carbon Oil and Naphtha Barrels.

N. K. Fairbank & Co.,

OFFICES AND FACTORIES AT
CHICAGO - ST. LOUIS - OMAHA - NEW YORK.
PRINCIPAL OFFICE AT CHICAGO.
Address, New York Office at 218 Produce Exchange.

We call especial attention of the Drug Trade to our
FAIRY SOAP."

The "Fairy" Brand is the Purest Soap ever manufactured. We warrant it far superior to any imported Castile Soap. Send us a trial order.

Lard Refiners, Oil Pressers, Soap Makers.

MANUFACTURERS OF
Extra Double Refined Acidless Lard and Tallow Oils
AS WELL AS ALL GRADES OF
Lard Oils, Tallow Oils, Neatsfoot Oils.
—REFINERS OF—
ACIDLESS CYLINDER TALLOW.

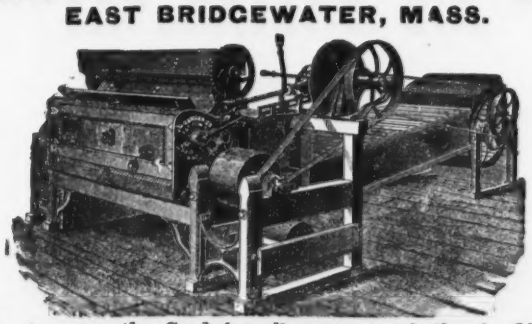
Our Acidless Products are warranted not to contain above one-quarter of one per cent. of Free or Fatty Acid.
N. K. FAIRBANK & CO

N. B.—The best brands of Butchers' and Packers' Tallow contain from one to ten per cent. fatty acid.

R. BEAUGRAND, Manufacturer and Wholesale Dealer in Canada and foreign Oils.
Sole Agent in CANADA for the Celebrated CRYSTAL OIL. Office and Warehouse No. 13 ST. THERESE STREET. MONTREAL.

LATEST IMPROVED COTTONSEED LINTER

MANUFACTURED BY
CARVER COTTON GIN CO.,
EAST BRIDGEWATER, MASS.



This Linter improves the Seed for all purposes, whether for Oil, Feeding Stock or Planting. Correspondence solicited.

OIL MARKET.

Note—*Our prices are for large lots except when otherwise specified, and buyers of small lots must expect to pay an advance on these figures.*

The prices current will be found on page 49.

Vegetable Oils

TUESDAY EVENING, April 3, 1888.

Linseed oil is in much better demand. City crushers and receivers of western oil report a noticeable departure from the quiet feeling of the past few weeks, and the improved inquiry for forward delivery indicates an earlier spring movement than usual. Prices remain on a steady basis of 56c for city domestic and Calcutta oil, and 53@54c for out of town oil according to quantity. There is some talk of withdrawing the inside price as the western markets are inclined to harden and the movement of oil is gradually increasing.

Cotton oil was expected to decline in price on account of the small demand from important consumers, but values have remained about stationary, probably because there has been no occasion for a change. Buyers have not been testing the market lately to see how far the asking prices could be shaded, and holders will not lower their views voluntarily. There are offerings of prime crude at 33c, which was the inside figure quoted this time last week, and prime summer yellow can be bought without difficulty at 39c on spot or 38c to arrive soon. There is a feeling that bottom has not been touched, and it is this fear that is restricting the sale for domestic use. The export business is far ahead of this time last season, and liberal shipments are being added to the foreign outlet almost weekly. Receipts of oil for the past seven days at this port aggregated 5,538 bbls, and as the amount is in excess of actual requirements, it will be seen that the storage accumulation is being augmented, but to what extent is not definitely known. The jobbing demand is the main feature of trade, and slightly better prices than quoted above are realized for the small lots moving from store. Off color oil continues in limited supply, which is evidence that the oil produced this season has been of a superior quality. Summer white oil is generally quoted at 42c, but it can be bought at 41c on a plump bid. Winter oils are steady at previous prices. Some fine samples of cotton oil have recently been exhibited to substitute olive salad oil, and experts declare that it is only a question of time when cotton oil will entirely supplant the finer grades of olive oil. Soap stock is another article which has made great headway this season. It has never been allowed to accumulate, and there are orders now in the market which cannot be supplied immediately. Soap makers have put it to new uses, and are greatly pleased with the result. That soap stock is growing in favor is evidenced by the large sale, small supplies and increased inquiry, stock to arrive is quoted at 1¾c and prices are expected to advance. The sale of tankings in this market during the cotton oil season, has been comparatively limited on account of scarcity.

Exports of cottonseed oil from New York by countries

To	For Week ending April 2. 1888. Bbls.	Since Sept 1, 1887. Bbls.	Same time last year Bbls
Africa	..	4	....
Arg. Republic	..	....	10
Australia	80	154	59
Austria	..	2878	....
Belgium	..	3609	1055
Brazil	..	106	234
Br West Indies	80	532	848
Br Guiana	..	1	...
Canary Islands	..	....	....
Central America	..	10	15
Chili	..	19	163
China	..	....	....
Cuba	..	..	1
Dan West Indies	..	81	114
Denmark	..	1	4
Dutch West Indies	..	7	7
Ecuador	..	1	3
Egypt	..	....	....
England	25	1977	1526
France	..	11912	3304
French West Indies	..	14	646
Germany	..	772	917
Hayti	..	19	49
Italy	..	930	500
Mexico	1	40	3
Netherlands	..	11841	20991
North America	..	113	9
Norway	..	450	..
Peru	..	....	....
Pto Rico	..	27	1
Scotland	..	110	100
Spain	..	110	....
Turkey	..	....	....
U S Col	..	35	28
Venezuela	1	13	18
Total	197	36599	30327

Exports of cottonseed oil from New Orleans by countries:

To	For week ending Mch. 30, 1888. Bbls.	Since Sept. 1, 1887. Bbls.	Same time last year. Bbls
Austria	..	....	....
Belgium	200	3760	2080
England	..	500	...
France	200	1820	1000
Germany	..	1658	760
Gibraltar	..	....	3200
Italy	..	2108	1500
Netherlands	..	13293	....
Portugal	..	....	....
Spain	..	2500	2000
Total	400	25639	10510

Exports of soap stock from New Orleans by countries:

To	For week ending Mch. 30, 1888. bbls.	Since Sept 1, 1887. bbls.	Same time last year. bbls.
Cuba	..	....	..
England	..	....	3990
Italy	..	...	2
Spain	..	....	..
Total	..	....	3992

Ceylon cocoanut oil is quoted at various prices, according to holder, but the inside figure is 5 30c from store. The Flora P. Stafford has arrived with 800 tons, most of which has been sold for consumption. No business has transpired within a week. Cochin oil is neglected and nominally quoted at 6¼@6⅝c.

Olive oil is stationary in price at 69@70c for Italian and 74c for Spanish oil, but without sales. In Italy the stock at Gallipoli, which has now been reduced to 5,000 tuns, is being monopolized by one large operator. The stock of oil at Gioja, on the other hand, is increasing. Some business has been done for shipment to England, but Russia has not as yet entered the market. The exports of oil from Sicily during the month of February show a decrease, and towards the end of February a momentary improvemet set in, which has, however, been almost lost again. In Spain, prices have further risen, quotations now equalling about £38., c. & f. steamer to Liverpool. Spain is, therefore, practically out of the market as a source of supply.

Animal and Fish Oils.

Lard oil has been on a declining tendency, but quotations are not materially changed. Prime oil is held at 62@64c, according to brand and nature of the demand. Pressers are not inclined to shade the inside figure for any quantity, and this fact has been demonstrated by the refusal of 61c during the week.

Oleo oil buyers are expecting lower prices to prevail, owing to the easier feeling in the English butterine market, but holders refer to the recent sales at Rotterdam to confirm their claims for steady prices. Business is rather quiet and values are about the same as this time last week.

Elaine oil has a good sale at 32@34c per gallon, according to quantity with 1 per cent off. Red saponified oil is quoted steady at 4⅜@4¾c, according to holder, with a moderate movement.

Sperm oil is in a firm position. A sale of 370 bbls crude oil for manufacture was made in New Bedford at 68c. Refined grades are in better demand and strongly held.

Whale oil supplies have been augmented by the arrival unexpectedly of the freighter from San Francisco with 9,800 bbls northern oil. As stated at last writing, the vessel was not expected until the latter part of this month but good weather favored it during the short passage of 100 days. Considerable of the cargo had been sold to arrive but at a prices not made public. The market for refined whale oil is strengthening in tone.

Whalebone is quiet and former prices prevail. Bids of $3 45 per lb for Arctic bone are said to have been refused in this market, the asking price being $3 50. A limited business has been done in Japan bone at $2 00 per lb. Stock is distributed as follows:

New Bedford—Arctic	23,000	77,700
" " Jap & Ochotsk	48,000	
" " South Sea	6,700	
Elsewhere, Arctic	118,000	129,000
" Japan	11,000	
Total		206,700

Menhaden fish oil is nominally held at 30c, but a bid of 28c would no doubt move supplies from first hands. The price is too high for export, but there is none to spare for shipment abroad. The determination of the Northern fishermen not to commence the season at the usual time will cause a scarcity and probably higher prices, and pressers are looking to the Southern fishing grounds for relief. The manufactured grades are quoted at strong prices, and a higher schedule is expected.

Mineral Oils.

There is a stiffening of values in red paraffine oils, owing to the limited production, and a revision of quotations is expected soon. The present inside price for 21@21¼ gravity is 16c, for 22½@23 gravity 13@14c, and 24 gravity 12@13c. Red paraffines are meeting with a good inquiry, but can be obtained only from few hands. There is an ample supply to meet all wants, and the curtailment of production only means a substitution of other improved lubricants which cost less to manufacture and are represented to be superior in quality. Occasionally an artificially dyed red oil is seen in the market, but very little is offered for sale compared to previous years.

Neutral filtered bloomless oils are in light supply and some brands are quoted 1@3c above our inside prices. For 32 gravity 18c is asked and for 34 gravity 16c. The wool grade which formerly commanded 9c for some brands, is

REED, HALL & HEWLETT

18 & 20 PLATT ST., NEW YORK.

MANUFACTURERS AND SHIPPERS OF

Animal, Vegetable and Mineral OILS.

Valve, Cylinder, Signal, Machinery Engine and Lubricating Oils.
Sperm, Lard, Tallow, Neatsfoot, Whale Elephant, Seal, Cod and Fish Oils.

Pure Spanish and Italian Olive Oils.

All grades of Pure Olive Oil Soap for Silk and Worsted Mills, either in bulk, bars or powdered.
Saponified Red and Elaine Oils.
Mineral Wool Oils and Wool Stocks
Castor, Rape, Mustard and Cottonseed Oils
Paraffine Oils, Paraffine Wax and Beeswax.
All kinds of Lubricating and Axle Greases
Tallow, Lard and Cottonseed Greases for Soap Makers.

SOLE EASTERN AGENTS FOR THE

West Virginia Oil Company

PARKERSBURG, W. VA.

Producers of Pure Natural West Virginia Rock Oils.

Future City Oil Works.

J. J. POWERS & CO., ST. LOUIS, MO.,

Refiners and Manufacturers of CRUDE, REFINED AND BLEACHED

COTTONSEED OILS.

Pure Winter Pressed Miners' Oils, White and Yellow, the best BURNING ever prepared for Miners' use; Superior to LARD OIL and at LESS COST! Guaranteed to remain limpid at Freezing Point.

OF **Salad Oils,**

PARAGON (TRADE MARK.) **COOKING OILS**

Purely Vegetable

Cottonseed Oil, Cake and Meal Reginnings & Soap Stock

CORRESPONDENCE SOLICITED.

ELAINE OIL.

The Emery Candle Co., CINCINNATI, OHIO.

Cornwall & Bro., LOUISVILLE, KY.

CLAYTON ROCKHILL,

COMMISSION MERCHANT,

30 Platt Street, - NEW YORK.

GENERAL EASTERN AGENT.

F. W. BRODE & CO.,

MEMPHIS TENN.

COTTONSEED PRODUCTS

CRUDE AND REFINED OILS,

Miners' Oils.
Winter Yellow,
Summer Yellow
Summer White, &
Cooking Oil.

Meal and Cake. Soap Stocks.

Correspondence Solicited. Samples sent on application

MICA AXLE GREASE.

THE CINCINNATI TRANSFER CO.,
Cincinnati, Ohio.

Mica Axle Grease is very satisfactory in every respect.
Quite superior to any axle grease we have ever used before.
W. J. Winterbottom, Supt.

We endorse the above.
Griffith & Hill, Lumber Dealers.
Jas. Griffith & Sons, Planing Mill.

Springfield, Vt.
I have a large sale of Mica Axle Grease. *It wears three times as long as any I ever used.* Minor W. Newton

Eldorado, Wis.
We have sold Mica Axle Grease for five years. *It is the best Grease manufactured.* C. H. & Buell Anderson

Detroit, Mich.
I have used Mica Axle Grease for about *eight years* with the very best satisfaction. *It doesn't run off the axle in hot weather; and it doesn't chill and harden in cold weather.* I have used almost all other makes of axle grease *and consider the Mica worth more than twice as much as any other for my use.*
J. C. Carpenter, dealer in coal and wood

Manufactured by the

American Lubricating Oil Co.,

Cleveland, Ohio.

Washington Butcher's Sons Company,

PHILADELPHIA, PA., U. S. A.

Office and Salesroom, No. 1 South Front Street.

Refiners of Lard,

Manufacturers of Oils.

MINERS' OILS,
WINTER AND SUMMER WHITE COTTON OILS,
WINTER AND SUMMER YELLOW COTTON OILS,
COOKING OILS.

PRIME LARD OIL,
EXTRA No. 1 LARD OIL,
No. 1 LARD OIL.
No. 2 LARD OIL.

Absolute Purity Guaranteed.
Correspondence Solicited.

American Oil Co. of New York,

Office, 45 BROADWAY, NEW YORK.

Refinery - - - - - - Brooklyn, L. I.

MANUFACTURERS OF

COTTONSEED OIL.

OFFER FOR SALE ALL GRADES OF

Crude, Summer Yellow, Summer White, Winter White, and Winter Yellow Cottonseed Oil.

Soapstock.

held at the inside figure of 11c, while other makes are quoted at 12@13c. A grade of high viscosity, recently put upon the market, is held at 15c.

Black reduced oils are on a higher plane. The cheaper oils have been withdrawn from the market, and some of the brands have gone out of existence since Jan. 1. Then there is a less amount of the cheaper oils coming from out of town. Some brands of 25@30 cold test are quoted at 8½@9c, and a good movement is reported at that figure, but this price can be shaded for other brands. Considerable 15 cold test has been sold during the winter months, and it is said that some of it was disposed of as zero oil; the latter is quoted at 10@11c, and 15 cold test at 9@10c. Summor oil is steady at the former price of 7@7½c. Only a limited jobbing demand is to be noted for summer oil, but the inquiry is better and manufacturers are increasing their stocks.

Oil Cake.

There is hardly any market for oil cake. The foreign markets are lower, and shippers are not operating. Values are said to be nominal at $25 per ton for western cake on spot. There is little to be had here and daily receipts are only moderate. The report that the west has an unusual accumulation of cake is denied in this market. It is alleged that the supply at this season of the year is only on the average.

Wax, Lard, Tallow, Etc

The tone of the paraffine wax market is not so strong and offerings are more liberal, so far as crude is concerned. A prime article of 130 test can be bought for 4¾c, while 1'4@126 test is still quoted at 4½c. The movement is moderately active. Refined wax appears to be on a steady basis at previous figures.

The lard market lacks activity, but good prices are maintained. Western steam for prompt delivery commands 8c and city steam 7 70c. Refined lard is slow in moving and quoted at 7 80@8 60, according to brand.

Lard stearine is quiet and rather steady at 8c for choice city, while oleo stearine is nomical at 6½@6¾c, owing to the absence of important demands.

The tallow market keeps on a firm foot ing and it is doubtful if 4¾c will purchase prime city, although the last sales were made at that figure. (For Naval Stores see page 33.)

Ethereal Oils *

1. Nature and Occurrence.—The aroma of plants is, in most cases, due to the presence of strongly odorous constituents, which are termed ethereal (or essential, or volatile) oils, if they are liquid, and stearoptens or camphors if they are solid. The latter are always crystallizable, though many of them are odorless and tasteless.

The leaves, barks, and seeds of many plants from the families of Pomeæ and Pruneæ (Amygdaleæ), which, of themselves, are odorless, furnish, when they are comminuted and macerated in cold water, a peculiar, strongly smelling mixture of benzaldehyde and hydrocyanic acid, which is commonly designated as oil of cherry laurel, or of bitter almond. Mustard seed, which is likewise colorless, furnishes oil of mustard only after a splitting up of the sinigrin. It would, therefore, be quite proper to exclude these liquids from the class of ethereal oils.

This convenient term cannot be sharply defined. With the exception of oil of mustard, probably all other so-called ethereal oils are likewise mixtures of several compounds. In some plants, as, for instance, in cinnamon, various species of citrus, members of the pine and labiate family, the oils derived from different organs of one and the same plant are not identical.

Most ethereal oils are known to possess an agreeable odor. In some cases, however, this may be declared without doubt as repulsive. Among the plants which diffuse a disagreeable odor when their leaves are crushed may be quoted as examples several species of Ferula, Melianthus, Eucalyptus pendula, Allium and Umbellularia (Oreodaphne) californica. Many flowers, f. i., those of Ailanthus glandulosa, Ceratonia Siliqua, Crataegus, and also some kinds of wood, likewise exhale bad odors.

From the domain of cryptogams only few of which have an aroma, no ethereal oil has so far been made known. There are also some phanerogamic families, as the Palms, the Polygonaceæ. Malvaceæ Gentianaceæ, and Liguliflorae (among the Compositæ), which do not yield ethereal oils. On the other hand, certain other families are remarkable through their great richness, f. i., the Abietineæ. Zingiberaceæ, Piperaceæ, Myrtaceæ, Lauraceæ, Dipterocarpaceæ, Rutaceæ, Umbelliferæ, Labiatæ, and some sections of Compositæ. Very large quantities of ethereal oils are likewise produced by the numerous eucalyptus trees of Australia and the species of citrus of Southern Europe and India.

It is generally possible to distinguish special receptacles in or upon the different organs of plants which contain the ethereal oils. In the first eight among the above mentioned families, for instance, these receptacles lie in the inner cellular tissue. In the Labiatæ, however, and also in many Compositæ. they are situated as sessile or pedioulated glands upon the epidermis.

In the tissue of sandal wood (from Santalum album and other species), which contains considerable of oil, no special oil receptacles are found. And in many plants yielding only minute quantities of oil, such as the flowers of Rosa, Sambucus, Tilia, etc., the domicile of the ethereal oil has not been made out.

The largest proportion of ethereal oils is afforded by the so-called balsams and turpentines (which are mixtures of resin and ethereal oil), also by gum resins. Very rich in oil are also cloves, caraway and other umbelliferous seeds, and the rinds of lemons.

The animal kingdom does not afford any ethereal oil.

2. Preparation—Though the boiling points of the compounds belonging to this class (excepting abietene) are considerably higher than 100 deg. C., they are nevertheless abundantly volatilized with steam, and are mostly obtained by distillation with water. But in the case of species of citrus, it is sometimes preferred to extract the oil, from the cells which contain it, by pressure, because the delicacy of the aroma is injured through distillation.

The preparation of essential oils is often carried out with the most simple contrivances, when small quantities are to be prepared, or when the crude material is to be worked up at once at the place of growth. * * * In large factories, the manufacture of the ethereal oils is carried on, with the aid of steam, on the largest scale, with utilization of every available technical invention. Recently, vacuum apparatus is also employed, so as to extract the oils with the least possible alteration.

During the distillation of ethereal oils it happens sometimes that fatty acids pass over. So, for instance, in the case of that laurel, nutmeg, orris, capsicum, and tea. The small quantities of these fatty acids may possibly be derived from compound ethers (esters), either through the decomposition, by the boiling water, of fats existing in the plant, or due to the presence of esters belonging to the series of monatomic alcohols, which pass over along with the ethereal oils. When such esters are decomposed in the course of the distillation or rectification, the oil, which was previously neutral, acquires an acid reaction, as, for instance, oil of valerian, etc.

Otherwise, the development of acids in ethereal oils is due to gradual oxidation by exposure to air. This occurs most prominently in oil of cinnamon.

The oils which are obtained by pressing, at least oil of bergamot, contain minute proportions of chlorophyl.

3. Properties—Odor and taste of the ethereal oils correspond to the aroma of the plants from which they are obtained, though often with some difference.

The stearoptens are colorless, likewise a large majority of the ethereal oils. But many of them, when freshly phepared or after being exposed for some time to the air, present a yellowish, brownish, or deep brown color, and can be rendered colorless by rectification. Some oils have a peculiar more or less pure bluish green tint, often covered by a brown one, for instance the oils of Artemisia Absinthium, Achillea Millefolium, Achillea moschata, calamus root, chamomile flowers, arnica flowers and root, the root of Asarum Canadense and Asarum Europæum, caraway seeds, carcarilla bark, etc.

Blue oils are obtained by distilling the following drugs or their oils: Sumbul root, German chamomile, pichury seed, patchouly herb, valerian root, etc., etc. The North American sage brush (Artemisia Ludoviciana Nutt.?) likewise yields a fine specimen of oil belonging to this class.

When such oils are rectified, the first fractions coming over are colorless, the next are brownish, then greenish, and finally, in most cases, deep blue, which are often again followed by less deeply colored drops. * * This magnificent blue color is afforded particularly, and from the very beginning, by the oil of German chamomile (Matricaria), * * and still more so by empyreumatic oils obtained by the dry distillation of asafœtida, galbanum and sumbul root. These blue oils are probably identical with each other.

Certain green oils derive their color from chlorophyl, particularly oil of bergamot.

A fine yellow color is characteristic of oil of turmeric.

A few ethereal oils are fluorescent, for instance, that of sage, neroli, etc. The most magnificent fluorescence is produced in oil of peppermint, if it is shaken with glacial acetic and nitric acid. * * * *

Ethereal oils possess different degrees of fluidity. While most of them are very mobile, others are viscid, particularly those which correspond to the composition $C_{15}H_{24}$ or $C_{20}H_{32}$, but not those of the formula $C_{10}H_{16}$. Among the more viscid oils are oil of copaiba, cubebs, popiar buds, pepper, olibanum, sandal wood, and the specifically lighter portion of oil of cloves. The residues remaining after the rectification of many ethereal oils are likewise quite viscid and appear to be formed by polymerization, that is, by the coalition of several molecules.

Most ethereal oils attack cork stoppers, and bleach the latter through the formation of ozone.

The specific gravity of the large number of ethereal oils of the composition $C_{10}H_{16}$, and its multiples is less than that of water, and varies between 0·850 and 0·960. Some of the naturally occurring oxygenated oils possess a higher spec. gravity than water, as the oil of Asarum Europæum (1·103), oil of cloves, cinnamon and sassafras. The oil of parsley fruit splits at 15 deg. C. into a lighter portion floating upon water and into a heavier portion (sp. gr. 1·140) sinking to the bottom. Oil of arnica root sinks in water between 0 deg. and 15 deg. C., and floats upon warmer water. Heavier than water are likewise the oils of Hysopus officinalis and of Mentha Pulegium; so also oil of mustard, bitter almond and gaultheria.

Very many oils are mixtures of hydrocarbons with oxygenated portions. The latter always have a higher specific gravity, the determination of which is of practical importance, because the oxygenated portion is, in all cases, the real bearer of the valuable properties (particularly of the odor) of the oil. Carvol is the desirable portion of oil of caraway, having the spec. gr. 0·960. The finest oil of peppermint, richest in menthol, has the spec. gr. 0·920. Where the manufacturer removes the hydrocarbons of the ethereal oils, the latter become very materially improved in aroma and rendered more concentrated in valuable constituents. In such oils, the specific gravity itself serves as a criterion; the nearer to 0·960 an oil of caraway is, or the nearer to 0·920 an oil of peppermint, the more valuable will it prove to be. * * * [The portion now following, relating to melting and boiling point, polarization, is for the present omitted].

Ethereal oils are miscible with a large number of liquids in any desired proportion. For instance, with anhydrous alcohols, esters many organic acids, ether, chloroform, acetone, carbon disulphide, etc. But there is a considerable difference in the behavior of the non-oxygenated and the oxygenated portion of an ethereal oil toward alcohol. The latter even when considerably diluted with water, can dissolve very notable quantities of the oxygenated portions of oils. The hydrocarbons, however, particularly those of high boiling point, often require several times their volume of alcohol (sp. gr. 0·830) to produce a clear solution. It must be remembered that freshly distilled oils behave different from older, resinified oils, which latter are more easily soluble in alcohol.

4. Composition of Ethereal Oils—Many ethereal oils have the ultimate composition represented by the formula C_5H_8, cut their vapor densities and some other observations render it probable that some of them are constructed after the formula $C_{10}H_{16}$, and others again after the formula $C_{15}H_{24}$ or $C_{20}H_{32}$ some of them are mixtures of these hydrocarbons. Most ethereal oils belonging here are attacked by metallic sodium, and are therefore apparently accompanied by oxygenated oils which are no doubt often present only in minute quantities. Curiously enough, the formula C_5H_8 belongs also to gutta percha, caoutchouc, and that portion of damar resin which is soluble in absolute alcohol; yet the molecule of these bodies must be expressed by a multiple of the formula C_5H_8. At a higher temperature, however, they yield the simple compounds, C_5H_8, $C_{10}H_{16}$, of a fluid consistence.

On the other hand, hydrocarbons corresponding to the two last mentioned formulæ, when exposed to a moderate and protracted heat, are transformed into denser and less volatile, so called polymerized compounds. Polymerization appears to occur, for instance, during the rectification of many ethereal oils, as they leave behind viscid residues. This occurs particularly if they are distilled without steam.

Among the very large number of ethereal oils which are certainly constituted according the formulae $C_{10}H_{16}$, several groups may be distinguished, especially if the classification is made to include also the terpenes which are prepared artificially from naturally occurring oils and resins. The term terpene is commonly applied to ethereal oil having the composition $C_{10}H_{16}$. Some of these compounds are solid, melt at 50 deg. C., and boil below 150 deg. C. The liquid terpenes, boiling near 160 deg. C., form only liquid compounds with bromine. On the other hand, a large number of terpenes boiling at about 176 deg. C., when combined with bromine, yield crystals—$C_{10}H_{16}Br_4$—melting at 105 deg. C., as, for instance, the hydrocarbons occurring in the oils of species of citrus, of caraway, dill, etc. A number of other terpenes, for instance, those of oil of Levant wormseed (cinene), oil of cajeput, and also those produced by heating caoutchouc, boil between 180 deg. and 182 deg. C., and form crystalline bromine compounds—$C_{10}H_{16}Br_4$—having a higher melting point, viz., at 125 degrees C.

The terpenes combine with dry hydrochloric acid gas to crystals having the composition $C_{10}H_{16}HCl$ or $C_{10}H_{16}(HCl)_2$, at the same time assuming a dark color even if they are kept cold. The acid gas is best prepared by allowing sulphuric acid of spec. grav. 1·840 to flow gradually into hydrochloric acid of spec. gr. 1·170.

Ethereal oils of the composition $C_{15}H_{24}$ or $C_{20}H_{32}$ yield no solid compounds with hydrochloric acid.

Under certain circumstances, probably all ethereal oils of the composition $C_{10}H_{16}$ (but not the others having the same percentage composition) combine with three molecules of water to a body which is probably identical in all cases, viz., terpin. This occurs also naturally, for instance, in the trunks of Dryobalanops aromatica Gaert., also in some Californian pines, and is occasionally deposited by the oil of Ocimum Basilicum L.

Another hydrate, namely, $C_{10}H_{14}(OH)_2$, is represented by the stearopten of cubebs. From elemi are obtained amyrin, $(C_6H_9)_3OH_3$ and bryoidin, $(C_6H_9)_3(OH)_3$. Some oils, as those of

(Continued on page 41.)

* Translated, and partly abstracted, from the second enlarged edition of Prof. F. A. Flueckiger's *Pharmaceutische Chemie*.

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TUESDAY EVENING, April 3, 1888.

The week under review has been noticeable for the sudden, and in several instances, unaccountable breaks in price. The causes assigned for the sudden changes are various but not in all cases satisfactory, while in others, if accepted, are certainly not in themselves of sufficient importance to have caused such an influence in depressing prices as have occurred. Thus one bad break is said to be attributable to the incoming of a new well credited with a production of 20 bbls per hour. This seems altogether too insignificant when we consider that the stocks above ground are being reduced at the rate of about 3,000 bbls per day. It simply shows that the speculators, knowing that the average scalping operator is easily frightened, take advantage of every unfavorable report to manipulate the market to their profit. Another break is attributed, and with good reason, to the dumping of a large block of long oil, but the subsequent reaction was tardy and the week as a whole showed a decided tendency to a lower range of prices, the average for the week being considerably below that of the week previous while the lowest price touched is the lowest since last December. It is evident the shut down has little influence on speculative values and depressing reports have more influence under existing bullish conditions than they did when the conditions were quite different. The monthly field report is also charged with being a cause for depression in prices, though the most bearish feature is an increase in new production of a little over 2,000 bbls. The changes in the carrying rates shows the manipulation of the operators, the range varying from 25c paid for carrying to $1 premium. The operations on the Stock Exchange have not been large, and while the fluctuations there followed those on the other exchanges, the quotations there are never referred to except by way of comparison, and to show how the operators on that exchange are paying for their fun. The transactions during the past week again show a large increase over those of the previous week, the sales footing 14,951,000 bbls against 11,661,000 bbls for the preceding week. The clearances of the local exchange amounted to 30,182,000 bbls, against 28,906,000 bbls during the preceding week. The total clearances reported for the other four exchanges amounted to 62,642,000 bbls against 63,090,000 bbls for the preceding week. The highest price of the week was reached on Wednesday, when 90c was touched. The lowest point of the week was 75⅛c and was touched on today. The opening price last Wednesday was 89⅝c, and the close this evening was at 79⅝c, showing a loss as the result of the week's trading of 10⅛c. while the extreme range of fluctuations for the week was 14⅜c.

The monthly report of operations in the fields is published, and makes a showing which some regard as very bullish, but is only so by comparison with the reports of the previous month. Following are the summaries for comparison on wells finished and new production:

WELLS COMPLETED FEBRUARY, 1888.

Field.	Wells com.	New Production.	Dry.
Allegany	0	0	0
Bradford	1	8	0
Middle field	3	18	2
Venango	19	77	6
Clarion	5	28	2
Butler & Armstrong	17	283	8
Washington	4	180	2
Greene county, etc.	7	16	5
Total February.	56	610	25
Total March	67	3,043	22
Difference	11	2,428	3

WELLS COMPLETED MARCH, 1888.

Field.	Wells com.	New Production.	Dry.
Allegany	1	0	1
Bradford	3	11	1
Middle field	4	12	3
Venango	20	93	5
Clarion	4	43	2
Butler & Armst'g.	26	985	8
Washington	8	1,800	2
Greene county, etc	1	25	0
Total March	67	3,043	22

Following are the summaries of rigs and drilling wells:

RIGS UP AND DRILLING FEBRUARY 29, 1888.

Field.	New Rigs.	Wells drill'g	Total.
Allegany	0	1	1
Bradford	0	2	2
Middle field	1	7	8
Venango & Clarion	12	20	27
Butler and Armstrong	8	36	44
Washington, etc	7	14	21
Greene county, etc	0	3	8
Total.	28	83	111
Total Mar. 31	34	69	103
Difference	6	14	8

RIGS UP AND DRILLING MARCH 31, 1888.

Field.	New Rigs.	Wells drill'g.	Total.
Allegany	1	0	1
Bradford	1	0	1
Middle field	2	7	9
Venango & Clarion	9	16	25
Butler & Armstrong	5	20	25
Washington, etc	16	24	40
Greene county, etc	0	2	2
Total	34	69	103

At Glade Run the Glatzau No. 1 on the Boggs farm, struck the sand on Saturday and during the first two hours produced 150 bbls but later gradually declined to about 30 bbls per hour. The Morganza well turns out to be a small affair. The Schlegel is averaging about 35 bbls per hour. The Guckert is steady at 10 bbls per hour. The Fergus is doing over 50 bbls per hour. The Haymaker & Liggett well well No. 2 in the northwest corner of the Crawford farm, came in big last Wednesday, starting off at the rate of 100 bbls an hour. In two hours it put 6 feet and 6 inches in a 250 bbl tank, practically, filling the tank in two hours. The oil was struck at about 25 feet in the sand, and it is safe to say it is as much of a surprise to the owners as to anyone else. The following table of distances will enable the reader to arrive at an exact idea of the location of the well. It is 80 rods due west of the Clark, Baker & Stafford well, on the Muder farm; 76 rods southwest of Culver Thyng's gasser, on the Muder farm; 175 rods south of Haymaker's dry hole, on the Welch farm: 200 rods due north of Christie, Haymaker & Liggett's well, on the Forcht farm; 175 rods northwest of the Big Snee well, of other days, and about 300 rods south of Bob Armour's dry well, on the Graube farm. It is unquestionably the largest well brought in since the Snee well, which at its biggest and best hour is said to have produced 175 bbls. The territory on all sides of that well has been riddled with holes, but nothing was found that could hold a candle to it. The nearest well to the gusher is producing less than 20 bbls a day, and Bob Armor's dry well on the Graube farm limits to a certain extent any extravagant north-westward extension.

The well at Mt. Morris, in Greene county, is a mystery to the public. Brawny drillers stand guard over it night and day. It is connected into the big iron tank that Hukill built, into which the oil and gas is discharged, and the tank is likewise guarded. The drillers who own the well have carefully closed all the avenues of information leading from it and succeed each other in standing guard over it, thus making assurance doubly sure that this most important of all avenues remain closed. This well is located on the southeast corner of the D. L. Donley farm, about 90 rods due east of Mr. Hukill's producing well. The location is such as to warrant a well of some capacity. When the productive stratum was first penetrated at about 1,760 feet, there was a deafening roar of gas and very little, if any show of oil. The gas pressure began to show signs of weakening. The next day a little oil was noticable in the gas and as the vapor diminished the latter increased. The first two days the well produced very little oil, and according to the intelligent testimony of practical oil men, was not showing better than 10 bbls a day. Both wells obtain oil about the same position in the rock, Big Injun, namely, 145 feet below the top, although the mean depth of the wells vary about 15 feet which is fully accounted for in the difference in altitude. The Hukill well is producing about 35 bbls a day. The total production saved since oil was struck October 13th, 1886, is 6,000 bbls. It is claimed that several thousand barrels were lost during the eight months required to drill from the Big Injun to the Gordon sand. The largest output within any 24 hours was 175 bbls, but for several days previous the well was, so to speak, dead. Last November a 40 quart shot was exploded in it and the production brought it to its present status, where it has since remained, with little variation.

Wednesday, March 28.

There was a drop of ⅜c from the close of last evening represented by the opening price this morning of 89⅝c, but support came in the shape of orders to buy which sent the price up to 90c, which remained the highest for the day. The reaction was prompt, the price dropping to the opening figure before the end of the first half hour. Then there appeared to be more sellers than buyers and the figures soon dropped below 89c, The market for the next two hours fluctuated between 88¾@88⅞c with trading fair, though principally confined to scalping operations. During the last hour there again appeared to be a desire to sell on the part of some longs, and the price began to go down. Some large blocks being offered then started the ball rolling in earnest, which appeared to make some of the dealers apprehensive, and reports coming of heavy selling on the western exchanges, a break was precipitated, the price dropping to 84⅞c. From this there was only partial reaction, the market closing at 85⅝c. This showed a loss for the day of 4¼c under a range of 5⅛c. Trading was active as a whole, and exciting during the last hour of the session, resulting in sales of 3,418,000 bbls. Reports came from Canonsburg to the effect that Booth & Flynn's No. 1 was in top of the Gantz sand. They expected to get the 50-foot sand later in the day.

The half-hourly quotations were as follows:

A.M.		P.M.	
10:00	89⅝	12:30	88⅞
10:30	89¼	1:00	89¼
11:00	89¼	1:30	88¾
11:30	88⅝	2:00	88⅛
12:00	88⅛	2:30	87⅝
		3:00	85⅝

The clearances were as follows: New York 2,670,000; Oil City, 2,746,000; Pittsburg, 2,924,000; Bradford, 1,724,000; Philadelphia, 428,000; total clearances March 28, 10,492,000 bbls.

Carrying rates were: New York, 15@20c; Oil City, 20@25c; Pittsburg, 30@35c; Bradford, 10@15c.

Market March 29, 1887—63@63⅛c.

Thursday, March 29.

While the opening showed a slightly weaker feeling, the first sales being at 84¼c, there was an almost immediate jump to 85⅜c, and then followed a rapid advance under good buying. Later came quite rapid fluctuations, the price at one time dropping to 85c, which remained the lowest for the day. For the greater part of the day, however, the price ranged above 86c. During the last half hour there was a spurt of activity, orders coming in, while the scalpers sought to cover previous sales. This was made the occasion of a squeeze, and the price was run up to 87⅜c, though settled a little at the close; the final figure being 86⅝. This made a gain for the day of 2⅝c under a range of 2⅞c. Trading was fair throughout, and at times active, resulting in sales of 2,856,000 bbls. At the close the shorts found themselves at the mercy of the longs, and instead of being able to pocket carrying charges they were compelled to pay a premium of from 50c to $1 for the privilege of accomodating their foes. From Canonsburg came the report that the Haymaker No. 1 on the Crawford farm, at Saxonburg was 20 feet in the sand and had started at 95 bbls per hour but was now down to 35 bbls per hour. This well is near the Snee No. 1. The Glatzau well at Reibold was six bits in the sand with no show of oil.

The half-hourly quotations were as follows:

A. M.		P. M.	
10:00	85¼	12:30	86¼
10:30	86⅜	1:00	86
11:00	87	1:30	86¼
11:30	87⅛	2:00	86⅜
12:00	86⅝	2:30	86⅝
		3:00	87⅝

The clearances were as follows: New York, 7,536,000; Oil City, 5,632,000; Pittsburg, 5,506,000 Bradford, 3,176,000; Philadelphia, 1,158,000; total clearances March 29, 23,008,000 bbls.

Carrying rates were: New York, $1 pr; Oil City, 30@35c; Pittsburg, 30c; Bradford, 30@35c.

Market March 30, 1887—63⅝@63¾c.

Saturday, March 31.

Fasting apparently had an assuring effect on the operators, as the opening this morning was at 88c, showing a gain of ⅜c over the close of Thursday. This, however, remained the highest price of the day, the price dropping rapidly as it became patent that there were more sellers than buyers. The course was steadily downward, with few checks or fluctuations, and nothing that could be called a reaction. Toward the end of the session a break was caused by the report of heavy selling at the west, the price dropping to 83⅜c, but recovered during the last few minutes, the market closing at 85c. There was considerable excitement attending the break, though it is believed that the operators were prepared. The result of the day's operations was a loss of 3c under a range of 4⅝c. Trading was active throughout the session, the sales footing up 2,160,000 bbls. From Washington it was reported that the Morganza No. 1 was through the sand and filled up 1,500 feet, but refused to flow, and was regarded as a small producer. It would be torpedoed. The Fergus well was doing 54 bbls per hour, and the Haymaker, Crawford, 12 bbls per hour.

The half-hourly quotations were as follows:

A. M.		A. M.	
10:00	88	11:00	87
10:30	86⅞	11:30	85
		12:00	85

The clearances were as follows: New York, 6,710,000; Oil City, 5,138,000; Pittsburg, 6,475,000; Bradford, 2,616,000; Philadelphia, 1,008,000; total clearances March 31, 21,947,000 bbls.

Carrying rates were: New York, flat; Oil City, 30@35c; Pittsburg, 30c; Bradford, 10@15c.

Market March 31, 1887—63¼@63¾c.

Monday, April 2.

A decline of 1⅛c was shown by the opening this morning from the close of Saturday, the first quotation being 83⅜c. This was attributed to the news from the producing region, which by most operators was considered very bearish, though why a 30 bbl well should break the market while the stocks are being reduced at the rate of over 3,000 bbls a day is a poser. There was no disposition to operate, even at the decline; but where a purchase was sought, the offers were raised to 83⅝c, and several transactions were recorded at that figure, which proved to be the highest for the day. Shortly before noon a large block of long oil was thrown on the market which caused a bad break, and as prices declined stop order limits were reached, which added further to the load causing intense excitement while the indicator was kept on a steady turn to show the rapid decline. The slump was arrested at 78⅝c. showing a decline of over 5c. Before the downward course was arrested operators became wild with excitement and it was at one time thought that several of them would not be able to weather the storm, but no serious casualties were reported. When the turn came the figures danced merrily upward until 80c was reached. Late in the session some support was given the market by liberal offers to purchase, and the price was run above 81c, the market finally closing at 81⅛c. This showed a loss for the day of 2⅝c under a range of 5¼c. The total sales reported footed up 3,092,000 bbls. From Glade Run it was reported that the Glatzau well was doing 30 bbls per hour. The Schlegel well, after further drilling, was doing 42 bbls per hour.

The half-hourly quotations were as follows:

A. M.		P. M.	
10:00	83¼	12:30	79⅛
10:30	83⅛	1:00	80¼
11:00	83⅝	1:30	80
11:30	83⅝	2:00	80¼
12:00	78¾	2:30	81⅛
		3:00	81⅛

The clearances were as follows: New York, 5,734,000; Oil City, 4,644,000; Pittsburg, 3,716,000; Bradford, 2,418,000; Philadelphia, 661,000; total clearances April 2, 17,173,000 bbls.

Carrying rates were: New York, flat; Oil City, 30@35c; Pittsburg, 35c; Bradford, 25c.

Market April 2, 1887—63⅝@63¾c.

Tuesday, April 3,

The initial figure this morning was 81¼c, a point above the close of last evening, and after a little effort the price was pushed up to 81¾c, which remained the highest quotation for the day. Soon there came orders to sell and the scenes and course of the day before were repeated. As the price receded the point was reached where stop orders made it necessary to throw further parcels on the market with the result of accelerating the downward course of prices, and the lowest price was reached within an hour of the opening at 75⅛c. The sales during this time were quite large and it was a noteworthy fact that some of those who were too timid to operate on the break yesterdry were to-day not slow to improve an opportunity they had no reason to expect would come again so soon. As more confidence was shown when the market began to take a turn the price gradually appreciated and trading continued good Under the gradual advance the price was finally brought above 79c and the market finally closed a little tame, in strong contrast with the activity earlier in the day, at 79⅝c. This showed a loss for the day of 1⅞c under an extreme range of quotations of 6¼c. Trading as a whole was active, and during the hour of extreme fluctuations there was considerable excitement. The amount of sales footed up 3,425,000 bbls. From Glade Run came the report that the Glatzau Well did 28 bbls per hour, but this morning, after agitation, the well declined to 25 bbls per hour. This is attributed to salt water, which was struck last night. The Schlegel well, after drilling 1½ hours, did 38 bbls. per hour. They will not drill deeper for fear of salt water. The Guchert well on the Gailbough farm has ceased flowing.

The half-hourly quotations were as follows:

A. M.		P. M.	
10:00	81¼	12:30	77⅛
10:30	78⅝	1:00	77⅝
11:00	75⅛	1:30	78¼
11:30	76⅝	2:00	76¼
12:00	77⅛	2:30	78¾
		3:00	79⅝

The clearances were as follows: New York, 7,533,000; Oil City, 5,008,000, Pittsburg, 5 682,000; Bradford, 2,702,000; Philadelphia, 1,280,000; total clearances April 3, 22,204,000 bbls.

Carrying rates were: New York, flat; Oil City, 25@30c; Pittsburg, 30c; Bradford, 30c.

Market April 4, 1887—63⅝@63¾c.

The amount of daily sales and total for the week follow:

Date.	Bbls.
Mar. 28	3,418,000
" 29	2,856,000
" 30	holiday
" 31	2,160,000
April 2	3,092,000
" 3	3,425,000
Total for week	14,951,000

Following is given the opening, highest, lowest and closing figures for each day, in tabulated form for comparison:

	Opening.	Highest.	Lowest.	Closing.
Mar. 28	89⅝	90	84¾	85⅝
" 29	86¼	87⅞	85	87⅞
" 30				holiday
" 31	88	88	83⅝	85
Apr. 2	83⅜	83⅝	78⅝	81⅛
" 3	81¼	81¾	75⅛	79⅝

The total clearances during the week at the several petroleum exchanges foot up as follows:

New York		30,182,000
Oil City	21,168,000	
Pittsburg	24,303,000	
Bradford	12,636,000	
Philadelphia	4,535,000	
		62,642,000
Total		92,824,000

The market for refined in barrels for export has not been active but shippers have taken such lots as were required, having no disposition to withhold orders as the freight rates continued favorable while there was no indication early in the week, that the course of the speculative market for certificates would take

the turn it has taken and a decline in refined was so near. The price of 70 deg. Abel test remained steady at 7⅝c until yesterday, when a reduction was announced to 7⅛c for all loadings, and to-day the price was made 7⅛c making a reduction of ⅛c for the week. It is not expected that the reduction in price will cause an increase in the demand. The sales reported for the week foot up about 50,000 bbls, mostly for New York loading. The foreign markets are all lower. To-day's quotations by cable were: Bremen, 6 50m; Antwerp, 16f. London, 6⅛@6¼d, and Liverpool, 6¼@6⅜d. Freight rates continue favorable though slightly higher than a week ago. Hence to London is 7⅛@is 9d is the rate as to vessels, while to continental ports the range is 1s 7d@2l as to port. Home trade lots have not been in active request. On these, prices are weak though nominally unchanged. We quote 8⅝@8⅝c for State legal test; 8@8⅛c for 110 test; 8⅛@8⅜c for 120 test; 8⅛@8⅜c for New York City 100 deg. flash, and 8¾@9c for 150 deg. water white. Western lots are quoted at the same figures.

Cases for export have been in moderately active demand, largely for far eastern ports, the total sales reported amounting to 275,000. The price has been reduced to 9⅛c for plain tops. Freight rates continue easy, with ample freight room offering. The rates for large vessels are: For Java, 30@31c; Japan, 27 @28c; Calcutta 20@21c; Bombay, 19c; Rangoon, 20c; Singapore, 23½@23c; Hong Kong, 21@22c, and for Shanghae 29@30c.

Crude in barrels for export has been in somewhat better demand with sales reported of about 15,000 bbls. Prices have been reduced to 6⅝@6⅞c for Bradford and Parker respectively. Cases for export have received very little attention and only a few small sales are reported. Prices have been reduced to 8⅝@ 8⅞c.

Prime city naphtha has remained steady at 7c. For export there has been a light demand and only a few small sales are reported.

Western residuum, 42@51 degree test, is quoted at 1¼@1⅜c f o b. Barrels are quoted at 5@ 5½c. No sales are reported for export.

Closing Quotations.

CRUDE.

National Transit Certificates	₱ bbl.	79⅝@ 79¼
In bbls	₱ gal.	6⅝@ 6⅝
In cases		8⅝@ 8⅜
Residuum, bbls, for export 18@22°.		5½@ 6
for domestic use f o b		1¾@ —

REFINED, IN BARRELS.

Cargo lots, Abel test	₱ gal,	7⅛@ —
Philadelphia loading		7⅛@ —
Baltimore loading		7⅛@ —
50 bbl lots, f. o. b. or on dock		8¼@8⅝
10 bbl lots, f. o. b. or on dock		8⅝@8⅝

HIGH TEST OILS—JOBBING LOTS.

110 fire test S. W	₱ gal.	8 @ —
120 fire test, S. W		8¼@ —
130 fire test, S. W		8½@ —
State test		8⅝@ —
150 fire test W.W		8¾@ 9
300 fire test		10 @11½
New York city 100 flash		8¼

REFINED IN CASES, 110 FIRE TEST.

Two-five, low screw, 10,000 lots		9⅛@ —
5,000 o 10,000		9⅜@ 9⅝
1,000 to 5,000		9⅝@ 9⅞
200 to 1,000		9⅞@10¼
Under 200		10¼@10¼

NAPHTHA AND GASOLINE.

Naphtha, crude, cargo lots, 68@72 deg.		@ 7
Naphtha crude, car lots, 68@72 deg		7⅛@ 7¼
Naphtha, crude. 70 deg		8½@ 9¼
Sweet, 63 deg		8½@ 9¼
70 deg		9 @1
76 deg		9½@10¼
Gasoline, 86 deg		13 @14
88 deg		15 @16
90 deg		18 @19

EMPTY PETROLEUM BARRELS.

Cargoes spot	$1 02½@1 05
Domestics, on dock	1 00 @1 03½
Subject to inspection	$1 05

Petroleum Statistics.

RUNS—TOTAL AND AVERAGE.

	Day.	Total.	Av'ge
Mon. Mar. 24	42,314	893,908	34,381
Tues. " 27	48,269	942,177	34,895
Wed. " 28.	46,543	968,719	35,311
Thurs. " 29	58,933	1,017,652	36,126
Frid. " 30	60,141	1,127,793	37,593
Sat., Sun. 31 & 1.	65,340	1,193,133	34,488
January, 1888.		1,048,641	33,837
February		1,175,103	40,529
March, 1887.		1,877,333	60,559
April		1,853,118	61,737
May		1,586,755	60,563
June		1,780,343	59,345
July		1,746,659	56,344
August		1,745,629	56,311
September		1,648,421	54,947
October		1,751,676	56,506
evember		1,125,390	37,513
December		1,223,648	39,472
Year 1887		20,209,993	55,915

DELIVERIES—TOTAL AND AVERAGE.

	Day.	Total.	Av'ge
Mon. Mar. 26	97,238	1,458,772	63,799
Tues. " 27	64,410	1,723,182	63,822
Wed. " 28	67,123	1,790,305	63,940
Thurs. " 29	67,867	1,858,172	64,075
Frid. " 30	68,075	1,936,247	64,208
Sat, Sun, 31 & 1	54,716	1,090,963	63,903

January, 1888	2,225,975	71,806
February	2,115,803	73,038
March, 1887	2,215,658	71,482
April	1,827,683	60,923
May	2,150,831	69,382
June	2,046,486	68,283
July	1,897,802	61,802
August	2,118,647	68,343
September	2,140,295	71,343
October	2,383,707	76,894
November	2,413,307	80,777
December	2,419,617	78,052
Year, 1887	25,519,175	69,916

CHARTERS—TOTAL AND AVERAGE.

	Day.	Total.	Av'ge
Mon. Mar. 26	69,841	857,336	32,974
Tues, " 27	39,087	896,423	33,201
Wed. " 28.	45,952	942,375	33,656
Thurs. " 29	56,548	998,923	34,446
Frid. " 30		998,923	33 239
Sat. Sun 31 & 1		998,923	32,323
January, 1888.		914,199	29,490
February		1,199,169	41,351
March, 1887		1,101,075	35,518
April		1,551,219	51,170
May		1,519,361	49,012
June		1,228,538	40,954
July		1,343,444	43,337
August		1,647,254	53,138
September		1,302,513	43,417
October		1,411,578	45,542
November		1,120.709	37,357
December		1,011,903	32,655
Year, 1887		15,204,735	41,657

CHARTERS FOR THE WEEK.

The total charters for refined in bbls and cases, crude in bbls and cases, naphtha &c., during the week ending April 3, were as follows:

Refined, bbls	50,500
Refined, cs	278.000
Crude, bbls	19,000
Crude, cs	6,000
Naphtha, bbls	5,500
Residuum, bbls	
Lubricating	
Total, crude equivalent	188,888

CLEARANCES FOR THE WEEK.

During the week ending April 2, the clearances of petroleum, in gallons, from the port of New York were as follows:

Refined	6,784,755
Crude	393,215
Naphtha	133,314
Residuum	
Total	7,310,284

EXPORT STATISTICS.

The following table shows the total exports from the port of New York and from the United States, reduced to crude equivalent, in gallons, for the week ending March 24; also, the total shipments to date, with comparisons with 1887:

Exports from New York for week ending March 24	6,286,776
Total exports from New York from Jan. 1, 1888	84,034.008
Same period last year	90,475,190
Decrease	6,441,182
Exports from U. S. for week ending March 24	9,042,898
Total exports from U. S. from Jan. 1, 1888	108,586,535
Same period last year	119 934,718
Decrease	11,348.183

TOTAL EXPORTS FROM DIFFERENT PORTS.

	1888.	1887.
New York	84,034,008	90,475,190
Philadelphia	22,365,421	27,534,945
Baltimore	270,653	1,924,586
Boston	428,813	
Perth Amboy	577.600	
San Francisco	10,040	
Grand total	108,586,535	119,934,718

CAPACITY OF VESSELS LOADING.

The following table gives the capacity of the vessels loading petroleum at the ports of New York, Philadelphia, Baltimore and Boston on March 31:

	NEW YORK. Bbls.	Cases.	PHILADELPHIA. Bbls	Cases.
Refined	88,800	1,405,000	20,000	379,000
Crude	8,900	18,500	11,500	
Naphtha	9,000		12,500	
Total	106,700	1,423,500	44,000	379,000

	BALTIMORE. Bbls.	Cases.	BOSTON. Bbls.	Cases.
Refined				
Crude				
Naphtha				
Total				

Foreign Statistics.

REFINED QUOTATIONS

	Bremen	Antwerp.	London.
Wed, Mar. 28.	7.05	— @16¾	6⅛@6¼
Thur, " 29.	6.85	— @16⅝	6⅛@6¼
Fri, " 30.		— @—	— @ —
Sat, " 31.	6.85	16⅝@—	6⅛@6¼
Mon, April 2.	6.85	16⅝@—	6⅛@6¼
Tues, " 3.	6.50	16 @—	6⅛@6¼

STOCKS, RECEIPTS AND SHIPMENTS.

The stock at the seven principal continental ports on March 17, was:

	1888.	1887.
Stock, March, 17	170,928	1,309,000

Exports of Petroleum from New York

REFINED.

COUNTRIES.	WEEK ENDING April 2. Gals.	Jan. 1 to Mch. 26, 1888. Gals.	Jan. 1 to Mch. 27, 1887. Gals.
Africa, Liberia		20,160	5,380
Sierre Leone			
South Africa	100	380,170	475,828
Zanzibar		153,500	900,000
Algiers	153,000	100,000	400,890
Arabia			400,000
Argentine Republic		675,620	1,304,580
Australia	175,558	2,308,180	802,324
Austria		14,155	
Belgium		8,982,393	5,621,920
Brazil	13 ,000	1,766,730	1,592,728
British East Indies, Aden			250,000
Burmah	371,790	330,000	
India	1,405,760	1,449 260	5,499,630
Penang		350,000	
Singapore			
British Guiana	5,000	59,200	74,350
British West Indies, Antigua	900	12,050	7,500
Barbadoes	5,000	67,500	44,510
Basse Terre	2,500	19,050	21,314
Bermuda	2,810	29,386	24,285
Domenica	50	3,100	16,110
Jamaica		143,563	149,065
Montserrat		1,950	1,000
Nassau		21,259	13,494
St, Lucia	1,100	4,300	4,753
St. Vincent			10,495
Trinidad	13,950	90,760	63,265
All others	788	28,505	5,359
Canary Islands			57,560
Central America, Belize		16,910	27,629
Costa Rica		12,582	9,993
Guatamala	500	32,167	10,200
Honduras		7,646	6,157
Nicaragua		45,085	56,234
San Salvador		22,630	21,600
Chili		65,500	667,165
China, Cochin		1,042,000	1,095,706
All other		3,599,980	3,958 019
Cuba	184,700	309,587	284,613
Danish West Indies		17,114	15,302
Denmark		493,583	514,175
Dutch East Indies, Java	261,700	4,865,040	1,804,290
Macassar		73,140	190,000
Sumatra		326,000	330,000
Dutch West Indies	3,806	23,888	23,268
Dutch Guiana		82,500	10,200
Ecuador		92,700	55,800
England	1,207,541	12,217,203	13,265,659
Egypt			928,970
France		434,023	338,378
French Guiana		7,000	4,470
French West Indies	7,000	115.079	85,610
Germany	1,87 ,150	19,602,105	11,140,850
Gibraltar		122,000	170,000
Greece			
Hawaiian Islands			29,640
Hayti	6,783	126.379	128 619
Ireland		846,536	664,823
Italy	172 595	308	570,757
Japan	647,760	2,207.250	4,521,450
Mexico		15,978	185,853
Malta			
Mauritius Island			
Netherlands	305,000	4,845,207	7 812 534
North America, New Brunswick	33,000	126,203	158 236
New Foundland		9,405	84,160
Nova Scotia		89,725	60,263
Prince Ed. Island			
Norway and Sweden	124,957	611,217	29,103
Peru	250	44.109	68,360
Porto Rico	11,400	207.585	137,255
Philippine Islands		317,000	
Portugal	186,416	394,673	363,180
Reunion		74,500	72,030
Russia			95,874
Scotland			
Siam		314,700	
Spain		155,700	200
Turkey			624,084
U. S. of Col.	9,028	170,034	111,779
Uruguay		348,649	299,700
Venezuela	27,853	162,066	237,401
Wales		144,766	
Total	6,784,755	70,992,585	67,921,242

CRUDE.

COUNTRIES.	WEEK ENDING April 2. Gals.	Jan. 1 to Mch. 26, 1888. Gals.	Jan. 1 to Mch. 27, 1887. Gals.
Australia			
Austria			
Belgium			
Brazil			
British Guiana			
British West Indies		248	
Chili			
Central America			
Cuba		907,580	1,399,737
Danish West Indies			
Dutch West Indies			
England			213,217
France		2,910,592	5,693,594
Germany		436,273	434,800
Hawaiian Islands			
Mexico		326,670	186,060
British North America			
Norway & Sweden		50,973	
Spain	393,315	6,644,373	1,696,277
Uruguay			
Total	393,315	11,246,704	9,603,705

NAPHTHA.

COUNTRIES.	WEEK ENDING April 2. Gals.	Jan. 1 to Mch. 19, 1888. Gals.	Jan. 1 to Mch. 20, 1887. Gals.
Africa			
Algiers			
Argentine Republic			
Australia			
Belgium		63,000	51,000
Brazil		5,700	37,525
British West Indies			
Central America			
Cuba			
Denmark			
England		591,525	764,544
France		15,857	953,467
Germany		595,360	
Hayti			10
Ireland			
Mexico			
British North America	500	650	1,050
Norway and Sweden	131,814	76,860	
Portugal			475
Russia			
Turkey			
Uruguay			
Venezuela			19,000
Total	132,314	1,378,952	1,827,071

Afloat "	263,841	204,843
Loading "	84,500	121,200
Total	519,°69	528.043
Receipts Mar. 10 to Mar. 17...	47,266	8,457
Re'ts July 1, '87, to Mar. 17, '88	2,931,033	2,827,396
Shipments Mar. 10 to Mar. 17..	50,769	63,845
Shp's July 1, '87, to Mar. 17, '88..	3,324,231	3,347,085

At London the stock on the same date was:

	1888.	1887.
Stock, March 17	54,873	101,460
Afloat "	42,500	33,664
Loading "	22,200	36,000
Total	119,573	171,124
Receipts Mar. 10. to Mar. 17...	28,153	6,950
Rec's July 1, '87, to Mar. 17, '88.	618,103	509,151
Shipments Mar. 10 to Mar. 17..	16,795	13,800
Shp'ts July 1, '87, to Mar. 17 '88.	681,715	590,595

Petroleum Charters.

Following is a list of vessels chartered and oading or to load petroleum at New York, Philadelphia, Baltimore and Boston.

	Bbls. Refd
NEW YORK	
Jan 30	
Br ship Honolulu, China or Japan, p t..cs	60,000
Jan 31	
Br ship Gowanburn, Calcutta. 20c..... cs	85,000
Am ship El Capitan, Calcutta, 20c.....cs	55,000
Am ship Isaac L Skolfield, Calcutta, pt..cs	25,000
It bk Colombina, Java, pt.....cs	28,000
Feb 7.	
Br sh Canara, Japan, 27½c.....cs	62,000
Br sh T E Marshall, Shanghae, 31c.....cs	45,000
Feb 9	
Am ship R D Rice, Japan, 27½c.....cs	80,000
Feb 20	
Nor bk Havre, Baltic, pt..	4,000
Feb 23	
Br ship British Duke, Calcutta, p t....cs	50,000
Feb 24	
Br str Serapis, Red Sea, p t.....cs	50,00
Br ship Mary L Stone, China or Japan, p t.....cs	50,000
Br bk Arizona, Japan, p t .. ..cs	42,000
Feb 27	
Am ship Geo R Skolfield, Calcutta, 19c.cs	60,000
Am ship Granite State, Hong Kong, 24c ..... cs	55,000
Feb 28	
Ger bk Henrietta, Singapore, p t. .....cs	32,000
Nor ship N B Palmer, Stockholm, 2s 6d..	6.400
Feb. 29	
Br str St Albans, Singapore, 33c.... ....cs	55,000
March 1	
Am ship Reporter, Madras, 20½c.....cs	48,000
Br ship Argonaut, Calcutta, 19c.....cs	55,000
March 2	
It bk Berna, Japan, p t..... ...cs	30,000
Br bk St Julian, Japan, p t.... ..... .cs	38,000
March 6	
Br bk Scots Bay, Vigo, 15c..... cs ode	30,000
March 8	
Br bk Emblem, Japan, p t.....cs	40,000
March 15	
It bk ——, Bangoon. pt..... .....cs	30,000
March 16	
Nor bk Queen of the East, G Baltic, p t....	7,000
March 20	
Fr bk Bengal, Singapore, p t. .....cs	30,800
Nor bk Brilliant, Rio Janeiro, 20c ..... cs	30,000
Br str St Ronans, Liverpool. 1s 9d 12,000	
March 21	
Br bk Kingsport, Shanghai, 29c ....cs	40,000
March 23	
Br bk Highlands, Hong Kong, p t .....cs	45,000
Nor bk Britannia, Bankok, p t.....cs	22,000
Br bk Conductor, Marseilles, 2s.....ode	6,500
March 26	
Ger bk Bremerhaven, Danish port, p t....	6.500
Br bk Peacemaker, Havre, 2s .....nap	6.500
Br sh John E Sayre, Shanghai, 29c .....cs	60,000
March 27	
Br sh Asia, Calcutta, p t..... .....cs	60,000
March 28.	
Ger sh Ida, Hamburg, 1s 8d.....	8,000
Nor bk Isabel, Shanghae, 29c.....cs	45,000
Br sh Gloaming, Java, p t..... .....cs	50,000
Nor bk Salem, Spanish port, p t....cs ode 6,000 and... .... .ode	1,400
March 29	
Br bk Galatea, Antwerp, 1s 6d.	8,000
It bk Fortunata, Marseilles, 2s 3d.....ode	2,500
Ger str Gluckauf, Bremen, o's acc..tank	19,000
April 2.	
Ger sh Favorita, Bremen, 1s 6d.....ode	7,600
Br bk Talisman, Blaye, 1s 9d. .....ode	6,000
Ger bk Mozart, Dan Baltic, 1s 10½d.....	5,000
Aus bk Ibar, Java, p t.....cs	25,000
Am bk Hiram Emery, Bankok, p t.....cs	28,000
PHILADELPHIA	
Dec 13	
Br bk Abyssinia, Japan, 27 & 28½c.....cs	45,000
Feb 13	
Br str Ponca, Genoa or Naples, 18c....cs	45,000
Feb 16	
Am ship Gov Goodwin, Japan, 30c.....cs	47,000
Feb 23	
Swed sh Ida, U K or Cont, p t..... ..	8,000
Feb 24	
Am sh Gov Roble, Japan, 30c.....cs	60,000
Feb 28	
It bk Gemma, C, Medit, p t..... .cs	23,000
Rus bk Trimpus, Rouen, 2s 4½d..... .ode	4,000
Mar 5	
It bk Ferris, Cagliari, p t..... ...cs	15,000
March 6	
It bk Chioggia, Medit, p t..... cs	18,000
It bk Principe de Napoli, Padang, p t..cs	30,000
March 8	
It bk Davide, Penang or Singapore, 24@ 25c.....cs	30,000
It bk Fede, Medit, p t..... .....cs	20 000
It bk Giacomo, Martola, Medit, p t.....cs	17 000
Nor bk ——, Newcastle, 2s 3d.....	5,000
March 9	
Br sh Sapphire, Antwerp, 1s 9d.	8,000
Br sh Anaurus, Calcutta, 18¾c .....cs	60,000
It bk Angela di Amore, Rangoon, p t..cs	25,000
Br bk Laura Emily, London, 2s..... nap	5,000
Br bk Kings County, Bremen, p t...	5.500
March 12	
Br sh Iron Cross, Japan, 26 & 27¾c....cs	50,000
March 20	
Ger sh Sophie, Rouen, 2s 3d nap 1,500 & ode	6,000
March 22	
Br sh Naupactus, Japan, 27c ..... .cs	50,000
March 26	
Br sh Abbie S Hart, Japan, 27c.....cs	55,000
March 27	
Ger sh Giestemunde, Blaye, 2s . ....nap 5,500 and.....ode	1,500
It bk Lucy W, Straits, pt.....cs	25,000
March 29	
Br str Pontiac, Seville, 15c.. .....cs ode	45,000
April 2	
Rus bk Veritas, Danish port, p t..... ..	4,000
PERTH AMBOY	
March 27	
Nor bk Star of India, Gottenburg, 1s 9d..	6,500
BALTIMORE.	
Jan 14	
Swed bk Sydney, Ger Baltic, 2s 9d.....	8.500

Clearances of Petroleum.

Following are the clearances of petroleum from the ports of New York, Philadelphia, Baltimore, Boston and San Francisco on the dates named. Refined, unless otherwise specified: –

NEW YORK

March 27.

Am bg Eastern Star, Bridgetown, 500 cs
Am bg Onalaska, Havana, 16000 cs
Am str Newport, Colon, 100 cs
Am str Newport, Panama, 220 cs
Am str Philadelphia, Caracao, 265 cs 14 bbls
Am str Philadelphia, Pto Cabella, 340 cs
Am str Philadelphia, La Guayra, 1417 cs
Am str Philadelphia Maracaibo, 859 cs 2 bbls
Br str Orinoco, Hamilton, 20 cs 53 bbls
Br str Samana, Grand Turk, 30 cs 5 bbls
Nor bg Unda, Paratiba, 6100 cs

March 28

Br bk N J Foley, Georgetown, 500 cs
Br bk Hilda, Bilbon, 4000 bbls 1500 cs
Br str River Ettrick, Arroyo, 110 cs
Br str River Ettrick, Ponce, 100 cs
Br str River Ettrick, Maraguez, 200 cs
Br str River Ettrick, San Juan, 380 cs
Am sch S M Todd, Nuevitos, 800 cs

March 29

Br str St Ronans, Liverpool, 10000 bbls
Br str Atlas, Santa Martha, 60 cs
Br str Atlas, Baranquilla, 4 cs, 1 bbl
Br str Atlas, Savanilla, 300 cs
Br str Atlas, Carthagena, 100 cs
Br bk Low Ward, Adelaide, 11286 cs
Br bk Low Ward, Brisbane, 7500 cs
Am sch A B Hutcheson, Mayaguez, 150 cs
Am sch A B Hutcheson, Ponce, 200 cs
Am bg Daylight, Pt Spain, 500 cs
Am str Saratoga, Havana, 160 cs
Am str Ozama, Macoirs, 15 cs
Am str Ozama, Grand Turk, 3 cs, 4 bbls
Am str Ozama, Samona, 30 cs, 3 bbls
Am str Ozama, Cape Hayti, 15 cs, ½ bbl
Am str Ozama, Pto Plata, 600 cs
It bg P Giacomo, Algiers, 15300 cs
It bk, A Accona, Bristol, 3943 bbls
Span str Mexico, Havana, 225 cs

March 30

Br sh Treasurer, London, 9351 bbl
Br bk Pythomene, Calcutta, 76066 cs
Br bk Talisman, Pt Spain, 1000 cs
Br bk, H Blanchard, Rotterdam, 6000 bbls
Am sts Caracas, La Guayra, 155 cs
Am str Caracas, Curacao, 8 bbls
Am bk Eneita, Cienfuegos, 1500 cs
Nor bk Dione, Batavia, 26170 cs
Nor bk Fortunato, Oporto, 1800 bbls 3500 cs

March 31

Ger str Gluchart, Bremen, 936150 gls bulk
Am str C of Para, Colon, 100 cs
Am str C of Para, Guayaquil, 50 cs
Am str C of Para, Callao, 25 cs

April 2

Br sh S D Horton, Calcutta, 64500 cs
Br sh Hilasia, Yokohamo, 64776 cs
Br bk St Julien, Rangoon, 37173 cs
Br sch Rondo, St John N B, 660cs ref 10 bbls nap
Am sch E Fay, St Pierre, 700 cs
Br str Muriel, Pt Spain, 395 cs
Br str Muriel, Antigua, 90 cs
Br str Muriel, St Kitts, 25 cs
Br str Muriel, St Lucia, 110 cs
Br str Muriel, Dominica, 5 cs
Dan str Dan, Madeira, 700 cs
It bk Francesco R, Alicante, 12154 cs ode, 1000 bbls ode
It bk Carmela C, Pozzaoli, 3321 bbls
Ger str Procida, Rio, 5200 cs
Ger str Procida, Santos, 2000 cs
Ger bk Marie, Bremen, 3303 bbls
Nor bk Olbers, Stockholm, 2550 bls ref, 348 bbls nap

BOSTON

March 27

Sch Canton, Azua, 125 cs

March 28

Sch W H Raymond, Harbor Grace, etc, 105 bbls
Sch Argonaut, Harbor Grace, etc, 155 bbls, 10 hf bbls
Sch On Time, Liverpool, 9 bbls

March 31

Sch T C Kimber, Liverpool, 10 bbls
Sch Bessie Louise, St Pierre, 90 bbls

PHILADELPHIA.

March 24

Am bk John M Clerk, Batavia, f o, 23000 cs
Bk Ferreri, Cagliari, f o, 16200 cs
Nor sh Jarlsberg, Liverpool, 7657 bbls

March 26

Nor bk Columbus, St Loubes, 2741 bbls cde, 3000 bbls nap

March 27

Br str Chester, Rotterdam, 27809 bbls, 5 cs
Nor bk Lady Blessington, Hull, 7145 bbls

March 28

Bk A Guarello, Genoa, 29850 cs

Imports of Empty Petroleum Barrels.

NEW YORK

6327, G Heye, M Nottebolm, Amsterdam
6122 S Pitou, A J Marshall, Antwerp
5934, Eckmeyer & Co, Peacemaker, Bordeaux
1495, G Heye, J City, Bristol
5293, G Heye, Goschen, Hamburg
3554, G Heye, Ajax, Hamburg
3340, G Heye, Bremen, Stettin
2924, G Heye, A M Claridge, London
3422, G Heye, Forest, Bristol
640, R A C Smith, San Marcos, Havana
1265, G Heye, Wodan, Plymouth
6850, S Pitou, Isabel, Antwerp
7875, G Heye, Avonmore, Antwerp
75, E Puig, Panama, Havana
9655, G Heye, Vandalia, Rotterdam
6414, G Heye, L Ross, Antwerp
5674, G Heye, Avonia, London
7400, G Heye, Marlborough, London
5580, G Heye, Heinrich & Tonio, Rotterdam
3087, G Heye, Von Berg, Antwerp
4411, G Heye, Germania, Dantzic
7000, Mueller S & Co, R Dixon, Havre
7261, G Heye, Kedorn, Rotterdam
806, G Heye, Enigma, Plymouth

PHILADELPHIA,

800, order, Innocenta, Carthagena

Suddenly Struck Oil.

The interesting story of how an Albanian "struck oil" has just come to light and its truth vouched for by responsible citizens. The fortunate individual is Henry R. Gilbert, an elderly man living in Albany, this State. He was born in Oneida county, and started in a successful business career, but largely through his good nature in indorsing notes for friends, he lost from $25,000 to $35,000, and has lately been obliged to support himself as best he could.

He worked formerly at the carpenter's trade, and later began selling sleeve buttons made from remnants of Mexican onyx used in the new capitol. His wife died about 35 years ago, and later his only son passed away. Through a legal firm he recently became aware that he was the owner of a tract of nearly 1,000 acres of wild land in McKean county, Pa., which was supposed to have been sold by the State for non-payment of taxes some three years ago. The property formerly belonged to his wife.

Mr. Gilbert went on personally to Pennsylvania, and ascertained that through some inadvertance on the part of the State authorities a portion of the property had escaped, and that the title to several hundred acres in the heart of the oil region still vested in the husband of Lucy Crane. A gas well bearing an estimated pressure of 130 pounds to the square inch was found on the property, which some prospector had digged, and through which gas was escaping through lack of means to control it.

Naval Stores.

Spirits turpentine—Owing to an increasing stock, together with less favorable advices from the primary sources, the market at the close to-day was not as firm as at the same time last week. Buyers, foreseeing that lower figures were likely to rule, have held aloof from the market and have refrained from purchasing except when forced to, and no transactions in round lots are reported. At the close to-day the market was quiet at 39½c.

Rosins—There have been no transactions in large lots reported, the business being confined to trading in small parcels, and but little activity has been noticeable. At the beginning of the present calendar week, advices from the primary sources were very favorable, and as a consequence the market became much firmer, and more especially was this the case on pales. It will be seen from to-day's quotations that an advance has been made. The market closed firm to-day, with the following figures ruling: Strained, $1 22½; G S, $1 25; E, $1 27½@ 1 30; F, $1 32½@1 35; G, $1 37½@1 40; H, $1 45; I, $1 55; K, $1 65; M, $1 85; N, $2 10; W G, $2 75@ 2 80; W W, $3 15@3 20.

STOCK ON HAND AT

	Spirits.	Rosin.	Tar,
New York, April 2..Bbls	929	25,846	1,439
Savannah, Mch. 23.....	4,635	67,405	....
Wilmington, April 2,....	413	60,192	1,000
Charleston, Mch. 30.....	623	22,727	....
London, Mch. 19.....	19,600	....	....

TURPENTINE STATISTICS.

Messrs. Watt & Son, London, under date of March 17 say:

	1888.	1887.	1886.	1885.
Stock Mch. 17..	19,673	22,917	44,481	37,784
Delivered this week.....	1,819	1,166	1,241	1,437
Since Jan. 1....	12,340	15,107	11,990	15,124
Price Mch. 17..	27s 6d	27s 6d	30s 9d	23s 9d
April-May.	27s 9d	28s d	30s 6d	23s d
Sep-Dec.....	26s d	26s d	27s 3d	24s 6d

RECENT PATENTS.

380,067. PRODUCTION OF NEW DIAMIDO COMPOUNDS AND OF AZO COLORS PRODUCED THEREFROM. Filed Nov. 29, 1887. Issued March 27, 1888.

Claim.—The process of producing azo colors, which consists in combining the ethers of the tetrazo-oxy-diphenyl and of the tetrazo-oxyphenyl-tolyl with two equal or different molecules of an amine or of a phenol, or of a sulphouic or carbonic acid of an amine or of a phenol.

380,087. ART OF TREATING COTTONSEED. Filed March 22, 1887. Issued March 27, 1888.

380,094. COLORING MATTER FROM THE SULPHO ACIDS OF ETHYL OR DIPHENYLAMINE COMBINED WITH TETRAZODIPHENYL OR TETRAZODITOLYL. Filed Nov. 29, 1887. Issued March 27, 1888.

Claim.—1. The production of coloring matters that dye unmordanted cotton directly by the action of one molecule of tetrazo salt upon swo molecules of the sulpho acids of monoethylaniliu or diphenylamine.

2. The production of coloring matters that dye unmorhanted cotton directly by the action of one molecule of the sulpho acids referred to in the preceding claim, and the subsequent combination with phenols, salicylic acids, phenolsulpho acids, the sulpho acids of alpha and beta naphthol or of alpha and beta naphthylamine.

380,111. OIL DISTRIBUTING DEVICE FOR SEA-GOING VESSELS. Filed Jan. 28, 1888 Issued March 27, 1888.

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IMPORTS, EXPORTS, DOMESTIC RECEIPTS, Etc.

IMPORTS ENTERED AT NEW YORK FOR CONSUMPTION.

DURING THE WEEK ENDING MARCH 31.

ACID—12 cs, Schering & G, Wieland, Hamburg
CITRIC—25 kgs, 2800lb, McKesson & R, T Hill, London
CARBOLIC—23 cks, 6455lb, F J Macnaughtan, Umbria, Lp'l
PICRIC—15 cs, 1120lb, R Holliday's Sons, Arizona, L'pool
ALIZARINE—100 cks, Pickhardt & K, Rotterdam, Rotterdam
2 cks, 200lb, E Schibach & Co, Zeeland, Antwerp
10 cks, 3905lb, A Klipstein, Zeeland, Antwerp
AMBRETTA SEED—3 bbls, L Bernard & Co, Bretagne, Havre
AMMONIA MURI—17 cks, 11598lb, J Clay, Spain, Liverpool
15 cks, 11749lb, J L & D S Riker, Arizona, Liverpool
ANNATTO SEED—202 pgs, 33883lb, A S Lascelles & Co, Alvo, Kgtn
26 pgs, 9015lb, Leaycraft & Co, Alvo, Kingston
100 bgs, 26745lb, C A Delgado, E M Bacon, Mayaguez
37 bbls, 6173lb, C Morrison & Co, Thames, Jamaica
1 bbl, 178lb, Macy & D, Thames, Jamaica
37 bbls, 6723lb, Sandford & K, Thames, Jamaica
2 bbls, 345lb, G Wessels & Co, E Godden, Pt Maria
ANTIMONY—50 cks, Phelps D & Co, Holland, London
ANGELICA HERB—1 bl, 63lb, M Koenigsheim, P Monarch, Hull
ARNICAS—5 bls, 1163lb, J Clay, P Monarch, Hull
ANILINE COLORS—4 cks, R Holliday's Sons, Wyoming, L'pool
3 cs, 500lb, P H Karcher, Bretagne, Havre
1 cs, 50lb, Lutz & Movius, Australia, Hamburg
25 pgs, A Klipstein, Bretagne, Havre
17 pgs, 1700lb, Sykes & Street, Bretagne, Havre
37 pgs, Pickhardt & K, Rotterdam, R'dam
16 cks, 4798lb, R Holliday's Sons, Arizona, L'pool
4 cks, 2235lb, C Morningstar & Co, Saale, Bremen
2 cks, 299lb, Schulze Berge & K, Zeeland, Antwerp
1 cs, 130lb, J J Keller & Co, Zeeland, Antwerp
3 kgs, 330lb, A Klipstein, Buffalo, London
1 ck, 100lb, A Klipstein, Saale, Bremen
3 pgs, O Hann, Zeeland, Antwerp
35 pgs, about 5350lb, E Schibach & Co, Zeeland, Antw'p
134 pgs, 19200lb, Lutz & Movius, Moravia, Hamburg
10 cks, 1000lb, A Klipstein, Holland, London
11 cks, 1100lb, J Earle & Co, Holland, London
18 pgs, 2300lb, W J Matheson & Co, Fulda, Bremen
18 pgs, 2000lb, W J Matheson & Co, Champagne, Havre
19 cs, 1700lb, Lutz & Movius, Waesland, Antwerp
OIL—10 dms, 11000lb, A Klipstein, Zeeland, Antwerp
20 dms, 21673lb, Roessler & H, Pennsylvania, Antwerp
SALT—23 bbls, 11460lb, A Klipstein, Zeeland, Antwerp
17 cks, 9047lb, Pickhardt & K, Zeeland, Antwerp
40 cs, 9463lb, Schulze-Berge & K, Pennsylvania, Antw'p
ARCHIL—12 cks, 8538 A DeRonde & Co, Bretagne, Havre
12 cks, 5589lb, Pickhardt & K, Holland, London
ARGOLS—49 cks, 43329lb, Loeb & Bro, Britannia, Marseilles
96 cks, 107741lb, C Pfizer & Co, Iniziativa, Naples
15 cks, 14749lb, N Y Tartar Co, Iniziativa, Naples
295 pgs, 105067lb, C Pfizer & Co, P Monarch, Hull
ARSENIC—500 bbls, 205516lb, E Hill's Son & Co, J City, Swansea
265 bbls, Sondheim A & Co, J City, Swansea
RED—200 kgs, 23000lb, Schering & G, Wieland, Antwerp
ASAFOETIDA—1 cs, 324lb, W E Ebbitt, T Hill, London
50 cs, 16735lb, McKesson & R, Buffalo, London
ASPHALTUM—6 cks, Tellado, G & Co, San Marcos, Havana
BALSAM—8 cs, 909lb, G G Cowl, City of Para, Aspinwall
10 cs, 970lb Stallman & F, Australia, Hamburg
COP—1 cs, 50lb, Mecke & Co, Atlas, Carthagena
2 cs, 203lb, J W Wupperman, Odin, Cd Bolivar
17 cs, 680lb, W R Grace & Co, Atlas, Carthagena
17 cs, 1203lb, Mosle Bros, Caracas, Maracaibo
5 cs, 390lb, Kantardt & Co, Odin, Cd Bolivar
TOLU—2 cs, 141lb, W R Grace & Co, Atlas, Carthagena
BELLADONNA—10 bls, 2332lb, J Clay, P Monarch, Hull
BLEACH—30 pgs, Davis, Wolt & Co, Germanic, L'pool
84 cks, Perkins G & Co, Italy, L'pool
230 cks, 221476lb, J L & D S Riker, Italy, L'pool
BLUE—5 cks, H Kohnstamm & Co, Holland, London
BERRY CARMINE—10 cks, 4776lb, A Klipstein, Zeeland, Ant'p
BERRIES—25 bls, 2756lb, W H Schieffelin & Co, Rotterdam, R'm
BARK—3595 lbs, J O Ward & Co, M E Pennell, Mexico
BARYTES SULPH—24 cks, 22862lb, G W Sheldon & Co, T R Marshall, Antwerp
BONEBLACK—37 cks, G W Sheldon & Co, Rotterdam, R'dam
BORAX—700 bgs, H J Baker & Bro, Spain, L'pool
BRIMSTONE—200 tons, Luber & B, Iniziativa, Palermo
BRONZE POWDER—12 cs, T Riessner, Saale, Bremen
6 cs, S Ullman, Wieland, Hamburg
3 cs, 1060lb, J Marsching & Co, Wieland, Hamburg
3 cs, G H Barbey, Wieland, Hamburg
3 cs, F J Emmerich & Son, Saale, Bremen
3 cs, J Marsching & Co, Saale, Bremen
BUCHU—12 bls, 3970lb, W E Ebbitt, T Hill, London
9 bls, M Berliner, Alma, Cape Town
CALAMUS—3 cs, 816lb, J Clay, P Monarch, Hull
CANARY SEED—400 bls, 88009lb, J D Nordlinger, Rotterdam, R'm
300 bls, 66000lb, C Rosenstein & Co, Rotterdam, R'dam
200 bls, 44092lb, H Nordlinger & Co, Rotterdam, R'dam
4463 bgs, J D Nordlinger, Protettore, Rodosto
313 bgs, 84900lb, De Valliere & N, Arabic, L'pool
CARAWAY SEED—100 bls, 11165lb, L German, Rotterdam, R'm
CACAO BUTTER—12pgs, 1000lb, G A Alden & Co, Rotterdam, R'm
5 cs, A E Reiman, Holland, London
CASSIA—3 bskts, 918lb, W H Schieffelin & Co, T Hill, London
2958 mats, 314928lb, J R Townsend & Co, K Tar, Padang
HIDES—25 cs, 1632lb, Stallman & F, Australia, Hamburg
CARDAMONS—1 cs, 86lb, McKesson & R, T Hill, London
14 cs, 659lb, G B Morewood & Co, Holland, London
CHAMOIS—4 cs, T L Lutkins, Germanic, L'pool
2 cs, Rabuteau & M, Germanic, L'pool
3 cs, R Young, Germanic, L'pool
2 cs, Tarrant & Co, Germanic, L'pool
CHAMOMILES—30 bls, 3177lb, Stallman & F, Zeeland, Antwerp
CHEMICALS—2 cs, L Englehorn, Elder, Bremen
2 cks, W H Schieffelin & Co, Wieland, Hamburg
1 cs, T Weicker, Wieland, Hamburg
13 cs, Schering & G, Wieland, Hamburg
10 cs, Scott & B, Bothnia, L'pool
50 bbls, W H Schieffelin & Co, Rotterdam, R'dam
76 cs, T Weicker, Rotterdam, Rotterdam
6 cs, F A Reichardt & Co, Wieland, Hamburg
30 cs, Roessler & H, Penna, Antwerp
10 cs, Lutz & Movius, Fulda, Bremen
2 pgs, Lutz & Movius, Moravia, Hamburg
CINCHONA BARK—61 bls, 13289lb, N Y Quinine & Chem Co, T Hill, London
136 bls, 22348lb, N Y Quinine & Chem Co, Rotterdam, R'm
CIVIT—1 cs, 280 ozs, G Lueders, Bretagne, Havre
CLOVES—200 bls, 28000lb, Howe, Balch & Tay, Ohio, Liverpool
200 bls, 26880lb, Carleton & Moffat, Ohio, Liverpool
100 bls, 14000lb, Carleton & Moffat, P Monarch, Hull
2 bls, 268lb, Pinckney & K, Canada, London
CEMENT—1000 cks, J Brand, T Hill, London
1680 cks, E Thiele, Mozart, Hamburg
1120 cks, Gabriel & S, Mozart, Hamburg
1000 cks, H Fleming, Buffalo, London
1500 cks, C J Stephens, Buffalo, London
1985 cks, Batjer & M, T E Marshall, Antwerp
1008 cks, Neuss H & Co, Australia, Hamburg
840 cks, Batjer & M, Australia, Hamburg
200 bbls, H O Berg, Pennsylvania, Antwerp
CHALK—1500 tons, E D Lockhart, A M Claridge, London
200 tons, F W J Hurst, Holland, London
800 tons, F E Brugman & Co, K F Troop, London
CHINA CLAY—450 tons, Hammell & G, Wodan, Plymouth
CLAY—190 tons, G Knowles, T Hill, London
143 tons, G Knowles, Buffalo, London
CLIFFSTONE—147½ tons, Sanderson & Son, P Monarch, Hull
COCA LEAVES—22 bls, 2750lb, W R Grace & Co, City of Para, Aspinwall
17 bls, 2960lb, Coombs, Crosby & Co, City of Para, A'p
CHROME—8 bbls, E S Morris, Buffalo, London
COLCOTHAR—7 pgs, E S Morris, T Hill, London
10 cks, E S Morris, Buffalo, London
COBALT OXIDE—5 cs, 1000lb, Roessler & H, Saale, Bremen
CLOVINE OXIDE—1 cs, 100lb, Roessler & H, Saale, Bremen
COLORS—1 cs, L W Morris & Son, Bretagne, Havre
6 cks, R F Downing & Co, Bretagne, Havre
1 cs W & H Erdtman, Wieland, Hamburg
1 cs, Hensel, Brueckman & L, Elder, Bremen
1 cs, Roessler & H, Saale, Bremen
3 pgs, Roessler & H, Pennsylvania, Antwerp
7 pgs, C E Gardiner, Bothnia, L'pool
COLOCYNTH—5 cs, 1964lb, McKesson & R, Buffalo, London
CORK SQUARES—342 bgs, J Robinson & Co, Teresina, Cadiz
COUMARIN—1 cs, 5lb, Fritzsche Bros, Saale, Bremen
CORKS—34 bls, A Daussa & Co, C Margaux, Bordeaux
92 bgs, J Robinsen & Co, Teresina, Cadiz
CUTCH—200 cs, Howe, Balch & Tay, St Albans, Calcutta
500 bxs, 47713lb, O S Janney & Co, St Albans, Calcutta
2250 bgs, G B Morewood & Co, St Albans, Calcutta
500 bgs, J E Whitney, St Albans, Calcutta
CORKWOOD—1170 bls, Gudewill & B, Errante, Lisbon
107 bls, J Sabater, Holland, London
CUDBEAR—1 ck, 238lb, Banning, B & Co, Elder, Bremen
DRAGON'S BLOOD—2 cs, Stallman & F, T Hill, London
2 cs, 250lb, McKesson & R, Buffalo, London
DANDELION—23 bls, 5035lb, J Clay, Rotterdam, Rotterdam
DBUGS—35 bls, Peek & Velser, T Hill, London
8 pgs, W H Schieffelin & Co, T Hill, London
22 pgs, Stallman & F, Buffalo, London
15 cks, Stallman & F, T Hill, London
3 pgs, McKesson & R, T Hill, London
1 cs, McKesson & R, Buffalo, London
5 cs, Stallman & F, Ohio, Liverpool
9 pgs, J Clay, P Monarch, Hull
1 cs, W H Schieffelin & Co, Rotterdam, Rotterdam
DYE—10 cks, 4105lb, Fiske Clarke & E, Bretagne, Havre
DYEWOOD EXT—15 cks, A Klipstein, Zeeland, Antwerp
DIVI DIVI—58 bgs, 4988lb, Foulke & Co, Caracas, Curacao
DUTCH METAL—1 cs, T Reissner, Saale, Bremen
DROP BLACK—40 cks, 4466lb, Pfeiffer & L, Rotterdam, R'dam
ERGOT—12 bgs, 1584lb, J Clay, P Monarch, Hull
FRANKFORT BLACK—3 cks, G W Sheldon & Co, Rotterdam, Rotterdam
16 cks, 8140lb, C Wix & Co, Rotterdam, Rotterdam
FLOWERS—5 cs, Dodge & Olcott, Britannia, Marseilles
6 bls, 1323lb, W H Schieffelin & Co, Rotterdam, R'dam
17 bls, 3203lb, Stallman & F, Ohio, L'pool

1 cs. P J Michaelis, Britannia, Marseilles
FENNEL SEED—20 bls, 5400lb, M Koenigsheim, Monarch, Hull
FISH SOUNDS—12 bgs, 1976lb, Suzarte & W, Caracas, Curacao
26 cs, 4969lb, H Witte, France, London
FUSTIC—6028 lb, Pardo V & Co, L Carr, Nuevitas
57063lb, P Phillipson & Co, Panama, Vera Cruz
FULLERS EARTH—20 tons, A DeRonde & Co, J City, Bristol
50 tons, Hammill & G, Holland, London
GALLS—19 bgs, 4149lb, G B Morewood & Co, Holland, London
GELATINE—5 cks, Thurber, W & Co, Anchoria, Glasgow
14 cs, 2643lb, Lutz & Movius, Australia, Hamburg
GINGER—10 bbls, 870lb, Pim, Forward & Co, Alvo, Kingston
23 pgs, 2310lb, A S Lascelles & Co, Alvo, Kingston
16 pgs, 3044lb, Leaycraft & Co, Alvo, Kingston
21 pgs, 3387lb, Pinckney & K, Canada, London
GLASS CATHEDRAL—18 cs, 9394 lbs, J Fitzpatrick & Co, S of Nebraska, Glasgow
16 cs, 8278lb, Vanhorne, G & Co, S of Nebraska, G'w
10 cs, 5365lb, Holbrook Bros, S of Nebraska, Glasgow
MIRROR—24 cs, 11975 ft, A Arnstein & Co, Rotterdam, R'm
34 cs, 17391 ft, Bendit, D & Co, Rotterdam, Rotterdam
35 cs, 17493 ft, Vanhorne, G & Co, Rotterdam, R'dam
33 cs, 18965 ft, S Binswanger & Co, Rotterdam, R'dam
36 cs, 13005 ft, S Bache & Co, Rotterdam, Rotterdam
24 cs, 11677 ft, Vanhorne, G & Co, Pennsylvania, A'w'p
22 cs, 11620 ft, S Cohn, Pennsylvania, Antwerp
31 cs, 16590ft, S Binswanger & Co, Pennsylvania, A'w'p
44 cs, 22546ft, Bendit, Drey & Co, Pennsylvania, A'w'p
23 cs, 12560 ft, S Bache & Co, Zeeland, Antwerp
18 cs, 9444 ft, S Bache & Co, Pennsylvania, Antwerp
PLATE—11 cs, 7734 ft, J A Waller, Germanic, L'pool
4 cs, 793ft, P Semmer, Arizona, L'pool
16 cs, 4833 ft, H H Cahn, Pennsylvania, Antwerp
2 cs, 259 ft, J Kahn, Rotterdam, Rotterdam
9 cs. 1737 ft, Heroy & M, Arizona, L'pool
36 cs, 1737 ft, J Kahn, Pennsylvania, Antwerp
19 cs, 9738lb, S Bache & Co, S of Nebraska, Glasgow
37 cs, 16404 ft, Heroy & M, Penna, Antwerp
18 cs, 6629 ft, Von Prasg & Co, Penna, Antwerp
15 cs, 5811 ft, S Bache & Co, Penna, Antwerp
67 cs, 18255 ft, H H Cahn, Zeeland, Antwerp
12 cs, 4169 ft, Holbrook Bros, Zeeland, Antwerp
29 cs, 7931 ft, J Kahn, Zeeland, Antwerp
10 cs, 2849 ft, Sonweine & Co, Zeeland, Antwerp
2 cs, 1250 ft, A Von Praag & Co, Zeeland, Antwerp
16 cs, 8131 ft, Heroy & M, Zeeland, Antwerp
WINDOW—80 cs, 15313lb, Heroy & M, Arizona, L'pool
963 cs, 50080lb, Holbrook Bros, Penna, Antwerp
3079 cs, 146240lb, Vanhorne, G & Co, Penna, Antwerp
135 cs, 16800lb, H H Cahn, Zeeland, Antwerp
3079 cs, 291380lb, Vanhorne, G & Co, Zeeland, Antwerp
2890 cs, 154770lb, S Bache & Co, Zeeland, Antwerp
454 cs, 23500lb, J Fitzpatrick & Co, Zeeland, Antwerp
2067 cs, 138335lb, Holbrook Bros Zeeland, Antwerp
1378 cs, 86220lb, T W Morris & Co, Zeeland, Antwerp
975 cs, 56170lb, Heroy & M, Zeeland, Antwerp
133 cs, 10560lb, T W Morris Co, Penna, Antwerp
243 cs, S Kommel, Zeeland, Antwerp
105 cs, 8900lb, T W Morris & Co, Holland, London
550 cs, 28625lb, N Cowen & Son, Zeeland, Antwerp
GLUE—14 cs, 11502lb, L De Jonge & Co, Rotterdam, R'dam
50 bgs, 5600lb, W Heuermann, Ohio, L'pool
181 pgs, 20681lb, A K Gardiner, J City, Bristol
12 pgs, 3396lb, A Hodge, T Hill, London
1 ck, Settle Bros & Co, Germanic, L'pool
48 cks, 23890lb, Townsend & B, Ohio L'pool
14 pgs, 6756lb, A Hodge, Buffalo, London
12 pgs, A E Reiman, Holland, London
100 bgs, 11200lb, A K Gardiner, Italy, L'pool
GLYCERINE CRUDE—40 dms, 43775lb, Marx & R, Spain, L'pool
95 bbls, 47280lb, Marx & Rawolle, Bretagne, Havre
30 dms, 33095lb, Marx & Rawolle, Britannia, Marseilles
40 dms, 43799lb, J E Schweizer & Co, P Monarch, Hull
40 dms, 43620 lb, Marx & Rawolle, Pennsylvania, Ant'p
20 dms, 22006 lb, J E Schweizer & Co, Australia, H'burg
REF—20 cs, 1720lb, Schering & G, Wieland, Hamburg
GUINEA GRAINS—50 bgs, 5402 lb, E R Durkee & Co, Holland, London
GUM—7 cs, 1144lb, Stallman & F, T Hill, London
3 cs, 591lb, McKesson & R, T Hill, London
3 cs, 513lb, Stallman & F, Buffalo, London
ARABIC—28 cs, 7211lb, Thurston & B, Buffalo, London
ANIMI—7 cs, 1398lb, Walker Gum Co, Holland, London
BENZOIN—2 cs, L Bernard & Co, Bretagne, Havre
CHICLE—21 bgs, 6627lb, E & H T Anthony, City of Atlanta, Tuxpan
DAMAR—30 cs, 3679lb, F J Shaw, Denmark, London
53 cs, 7182lb, J R Townsend & Co, K Tar, Padang
KAURI—1216 cs, 245415lb, Arnold C & Co, Star of the East, Auckland
300 cs, 67200lb, R W Forbes & Co, Star of the East, Auckland
1260 cs, 254666lb, E Hill's Son & Co, Star of the East, Auckland
513 cs, 103153lb, W C Pope & Bro, Star of the East, Auckland
451 cs, 112653lb, Knudson, P & Co, Star of the East, Auckland
1613 cs, 333900lb, T N Bolles, Star of the East, Auckland
218 cs, 51856lb, Walker Gum Co, Star of the East, Auckland
1500 cs, Murphy & Co, Star of the East, Auckland
282 cs, 56409lb, T R Fay, Star of the East, Auckland
OLIB—5 cs, E S Morris, T Hill, London
13 cs, 2601lb, McKesson & R, T Hill, London
SANDRAC—3 cks, E S Morris, Buffalo, London
MYRRH—3 cs. 546lb, McKesson & R, Buffalo, London
TRAG—26 cs, G B Moorwood & Co, Holland, L'nd'n
51 bgs, 9045lb, N Y Dye, Ext & Chem Co, Holland, L'd'n
16 cs, D E Green, Holland, London
TACAMAHACA—3 cs, 218lb, Mose Bros, Caracas, Mar'bo
HEMPSEED—300 bgs, 66139lb, McKesson & R, P Monarch, Hull
200 bgs, 43652lb, H Nordlinger & Co, P Monarch, Hull
175 bgs, 38581lb, H Nordlinger & Co, Buffalo, Hull
INDIGO—69cs, 21585lb, O S Janney & Co, T Hill, London
108 cs, 29050lb, Whitney Bros, T Hill, London
26 cs, 6717lb, J L & D S Riker, Buffalo, London
79 cs, 21872lb, Whitney Bros, Wyoming, Liverpool
13 cs, 3981lb, Browning Bros, Holland, London
126 cs, 35443lb, Whitney Bros, Holland, London
32 cs, 9597lb, Beach & Co, St Albans, Calcutta
112 cs, Whitney Bros & Co, St Albans, Calcutta
CARMINE—5 cks, 498lb, Schulze-Berge & K, Zeeland, A'p
EXT—38 cks, 25776lb, Pickhardt & K, Holland, London
INDIGOTINE—2 cs, 165lb, Lutz & Movius, Champagne, Havre
INDIAN RED—75 cks, 38585lb, C T Raynolds & Co, P Monarch, Hull
IRON OXIDE—53 cks, E S Morris, J City, Bristol
IPECAC—2 ser, 217lb, Stallman & F, Umbria, Liverpool
4 bls, Dodge & Olcott, Holland, London
KAINIT—502 tons, C Weidinger, Ajax, Hamburg
LICORICE ROOT—27 bls, 5070lb, G A & E Meyer, Teresina, C'z
LIME ARSEN—362 bgs, E S Morris, Buffalo, London
LEECHES—4 cs, F Paturel & Co, Bretagne, Havre
LEAVES—13 bls, 3478lb, Stallman & F, T Hill, London
4 bls, J O Ward & Co, M E Pennell, Mexico
LINSEED—2750 bgs, 443727lb, Kellogg & McD, T Hill, London
2500 bgs, Campbell & T, G R Skolfield, Calcutta
LOGWOOD—30 tons, J Agostina, C of Washington, Fronters
500000lb, W & A Leaman J Fowler, Gonaives
MAGNESIA CARB—3 cs, 150lb, W H Schieffelin & Co, Rotterdam, Rotterdam
MANGANESE OXIDE—1 cs, 100lb, Roessler & H, Saale, B'mon
MANURE SALT—1016 bgs, W R Peters & Co, Goschen, H'b'g
930 bgs, 225000lb, H H Salmon & Co, Amalfi, Hamburg
MARSHMELLOW—5 cs, J Clay, P Monarch, Hull
MATCHES—25 cs, S M Marks, De Ruyter, Antwerp
MILK SUGAR—9 cks, 5964lb, R Brueckner & Co, Bretagne, H'e
24 cs. 9993lb, Rothlisberger & G, Bretagne, Havre
MILLET SEED—600 bgs, 151702lb, J D Nordlinger, Protettore, Rodosto
MORPHINE—2 cs, 200 ozs, L Englehorn, Eider, Bremen
NUTMEGS—24 cs, G S Adrian & Co, Rotterdam, R'dam
26 cs, 5302lb, L German, Rotterdam, R'dam
91 cs, 6512lb, J R Townsend & Co, K Tar, Padang
1 cs, 270lb, Pinckney & K, Canada, London
OCHER—10 cks, 4721lb, Toch Bros, Zeeland, Antwerp
47 cks, 2885lb, G W Sheldon & Co, C Margaux, B'deaux
35 cks, 18842lb, H Kohnstamm & Co, Zeeland, Antwerp
10 cks, 4738lb, E S Morris, Buffalo, London
OIL—6 cs, 300lb, W H Schieffelin & Co, Australia, Hamburg
ALMOND—3 cs, Liebman & B, Bretagne, Havre
2 cs, 233lb, H Warrick, Britannia, Marseilles
BERGAMOT—25 cs, 591 lb, E Hill's Son & Co, Suppicich, Messina
35 cs, 770lb, Fritzsche Bros, Saale, Bremen
10 cs, 258lb L Bernard & Co, Suppicich, Messina
COD—15 bbls, O Wasboe, Wieland, Hamburg
20 bbls, 500 gls, O Wasboe, P Monarch, Hull
DEAD—1000 dms, 5000 gls, J Smith, P Monarch, Hull
ESS—2 cs, 88lb, Schering & G, Wieland, Hamburg
1 cs, Liebman & B, Bretagne, Havre
2 cs, Dodge & Olcott, Britannia, Marseilles
FUSIL—3 cks, 4404lb, Eimer & Amend, Rhaetia, Hamburg
42 cs, 204 gls, E W Todd, Lynwood, London
JASMINE—1 cs, 23lb, H Warrick, Britannia, Marseilles
LAVENDER—2 cs, Liebman & B, Bretagne, Havre
27 cs, Dodge & O, Britannia, Marseilles
LEMON—37 cs, 925lb, L Bernard & Co, Newnham, Messina
25 cs, 569lb, E Hill's Son & Co, Wallachia, Messina
25 cs, 624lb, L Bernard & Co, Suppicich, Messina
MYRBANE—2 dms, 1560lb, Fritzsche Bros, Saale, Bremen
1 dm, 480lb, Sykes & Street, Zeeland, Antwerp
OLIVE—25 cks, 1350 gls, W Haaker Co, Britannia, M'lles
1 bbl, 46 gls, H Warrick, Britannia, Marseilles
ORANGE—10 cs, 228lb, E Hill's Son & Co, Suppicich, Me's'a
1 cs, 11lb, H Warrick, Britannia, Marseilles
2 cs, 49lb, L Bernard & Co, Suppicich, Messina
ORIG—25 cs, 1375lb, J B Horner, Britannia, Marseilles
POPPY—200 cks, A Coty, Britannia, Marseilles
RAPE—100 bbls, 4893 gls, S G McCotter, T Hill, London
6 bbls, 290 gls, G I Dunlap, P Monarch, Hull
RHUE—1 cs, 110lb, J B Horner, Britannia, Marseilles
ROSE—1 cs, 11lb, H Warrick, Britannia, Marseilles
ROSEMARY—6 cs, L Bernard & Co, Bretagne, Havre
SESAME—12 cks, Runkle Bros, Britannia, Marseilles
10 bbls, 578 gls, Stallman & F, Britannia, Marseilles
10 bbls, 514 gls, W H Schieffelin & Co, Britannia, M'lles
THYME—26 cs, Dodge & Olcott, Britannia, Marseilles
VERBENA—1 cs, L & J Michaelis, Britannia, Marseilles
ORRIS ROOT—1 cs, 72lb, J Clay, P Monarch, Hull
ORANGE LEAD—90 cks, 68195lb, E Hill's Son & Co, Rotterdam, Rotterdam
PAINT—30 bbls, Toch Bros, Zeeland, Antwerp
PATENT DRYER—2 cs, E S Morris, T Hill, London
PERFUME—2 cs, 6 gls, Ellis & G, Holland, London
7 cs, F R Arnold & Co, Holland, London
PHOSPHORUS—55 cs, 6050lb, C Pfizer & Co, P Monarch, Hull
50 cs, 5500lb, C Pfizer & Co, Buffalo, London
PIMENTO—29 bgs, 3967lb, A S Lascelles & Co, Alvo, Kingston
PITCH—12 cks, E Hills Son & Co, Zeeland, Antwerp
PIGMENT GREEN—27 cks, 282208lb, A Klipstein, Zeeland, A'w'p
PEPPER—394 bgs, 46666lb, J H Recknagel, Buffalo, London
165 bgs, 19907lb, G B Morewood & Co, Buffalo, London
256 bgs, 33026lb, J W Pluyfe & Co, Holland, London
POMADE—2 cs, Liebman & B, Bretagne, Havre
1 cs, 22lb, H Warrick, Britannia, Marseilles
POTASH BICARB—20 cks, 4672lb, C Pfizer & Co, Rotterdam, R'm
CARB—35 cks, 35534lb, A Klipstein, Rotterdam, R'dam
CHLO—100 kgs, 11200lb, H J Baker & Bro, Spain, Liverpool
10 cks, 5600lb, J L & D S Riker, Italy, L'pool
HYDRATE—25 cks, 29280lb, E Hill's Son & Co, DeRuyter, Antwerp
MURI—2500 bgs, W R Peters & Co, Goschen, Hamburg
3000 bgs, 672000lb, H H Salmon & Co, Amalfi, H'burg
1000 bgs, 224000lb, H H Salmon, Moravia, Hamburg
QUININE—2 cs, 2000 ozs, L Englehorn, Eider, Bremen
52 cs, 5750 ozs, Lanman & K, Germanic, L'pool
RAPESEED—250 bgs, 55115lb, Levy & Levis, P Monarch, Hull
RED LEAD—1 csk, 504lb, Standard Oil Co, Rotterdam, R'dam
ROSE WATER—10 cs, L & J Michaelis, Britannia, Marseilles
SAFFRON—11 bls, 1204lb, P Phillipson & Co, Panama, V Cruz
SAFFROL—1 dm, 540lb, Fritzsche Bros, Saale, Bremen
SAGO—250 bgs, 55125lb, Rosenstein Bros, Rotterdam, Rotterdam
SALTPETER—650 bgs, 123043 lb, Gantz, Jones & Co, St Albans, Calcutta
SARSAPARILLA—2 bls, 396lb, Eggers & H, Aguan, Livingston
SEED—43 bgs, 5381lb, Stallman & F, Buffalo, London
5 bgs, 1076lb, W H Schieffelin & Co, Australia, H'burg
SENNA—43 bls, 12060lb, Gantz, Jones & Co, T Hill, London
15 bls, 4037lb, Lazell, D & Co, T Hill, London
25 bls, F J Macnaughtan, T Hill, London
SIENNA—37 bbls, 15061lb, Toch Bros, Zeeland, Antwerp
SHELLAC—50 cs, 8541lb, N Y Shellac Co, St Albans, Calcutta
50 cs, 8286lb, Knudson, P & Co, Buffalo, London
50 cs, 8258lb, Knudson, P & Co, G R Skolfield, Calcutta
50 cs, Howe & French, G R Skolfield, Calcutta
100 cs, Knudson, P & Co, Buffalo, London
200 cs, N Y Shellac Co, Buffalo, London
200 cs, 11934lb, L C King & Co, G R Skolfield, Calcutta
200 cs, 55118lb, N Y Shellac Co, Holland, London
SOAP CASTILE—300 bxs, 10337lb, A Stephani & Co, Britannia, M's
SOFT—100 tcs, W C Benedict, Wyoming, L'pool
POWDER—50 cks, W Downie, Galileo, Hull
STOCK—245 cks, 90116lb, W R Peters & Co, Initiativa, N'p's
SODA ASH—263 cks, 46089lb, Wing & Evans, Bothnia, L'pool
90 cks, 17071lb, J L & D S Riker, Bothnia, L'pool
258 cks, 44761?lb, Wing & Evans, Ohio, L'pool
244 cks, 39?035lb, Wing & Evans, L Ontario, L'pool
257 cks, 44914?lb, Wing & Evans, C of Berlin, L'pool
46 cks, 5?999lb, Perkins, G & Co, Italy, L'pool
1?9 cks, 2?4583lb, Wing & Evans, Italy, L'pool
540 cks, 113099lb, J L & D S Riker, Italy, L'pool
CARB—140 bbls, 56000lb, J L & D S Riker, Bothnia, L'pool
CAUSTIC—150 dms, 97500lb, T M Marc, Germanic, L'pool
100 dms, 64485lb, J L & D S Riker, Germanic, L'pool
50 dms, 31118lb, J Lee & Co, Germanic, L'pool
356 dms, 224470lb, Wing & Evans, Bothnia, L'pool
100 dms, 65000lb, J L & D S Riker, Ohio, L'pool
300 dms, 195000lb, E Hill's Son & Co, Ohio, L'pool
176 dms, 115928lb, J Lee & Co, Italy, L'pool
174 dms, 112814lb, Wing & Evans, L Ontario, L'pool
HYPO—240 kgs, 12 cks, Maas & W, Vandalia, Rotterdam
NITRATE—7504 bgs, W R Grace & Co, Weser, Caleta Buen
NITRITE—1 ck, 965lb, R Holliday's Sons, Arizona, L'pool
SODIUM SULPH—46 cks, 19558lb, A Klipstein, Australia, H'b'g
SPONGE—42 bls, A Isaacs & Co, Santiago, Nassau
33 bls, Lasker & B, Santiago, Nassau
43 bls, C A Salman & Co, City of Washington, Havana

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Nitrate Iron, Iron Liquor, Prussiate Potash, Red " " Yel, Oxalic Acid, Glauber Salt, Fullers Earth.

84 pgs, P Van Schaack & Co, Holland, London
SUMAC—250 bgs, 40000lb, L Giles & Co, Iniziativa, Palermo
450 bgs, 72421lb, Leber & B, Iniziativa, Palermo
350 bgs, 56000lb, Phelps Bros & Co, Iniziativa, Palermo
EXTRACT—25 cks, 12500lb, Geisenheimer & Cc, Arizona, L'pool
THYME—50 bbls, 10118lb, M Koenigsheim, Ohio, Liverpool
UMBER—23 bbls, 9513lb, Tooh Bros, Zeeland, Antwerp
ULTRAMARINE—1 cs, 220 Henseil, B & L, Saale, Bremen
11 cks, 3110lb, Pickhardt & K, Rotterdam, Rotterdam
VARNISH—2 bbls, 102 gls, W H Erdtman, Wieland, Hamburg
VALERIAN—1 bg, 116lb, McKesson & R, T Hill, London
VANILLAS—4 cs, Dodge & Olcott, Holland, London
4 cs, 670lb, H Martin, Australia, Hamburg
1 cs, DeGraw A & Co, Circassia, Glasgow
VANILLA BEANS—23 cs, L Bernard & Co, Bretagne, Havre
VENETIAN RED—300 cks, 67200lb, G A & E Meyer, P Monarch, Hull
VERDIGRIS—10 cks 6373lb, Parsons & Petit, Britannia, Cette
1 ck, E S Morris, Buffalo, London
WHITE LEAD—80 cks, 12330lb, C T Raynolds & Co, T Hill, L'don
5 cs, 359lb, A B Ansbacher & Co, Holland, London
WASH BLUE—25 pgs, L W Morris & Son, Saale, Bremen
ZINC OXIDE—100 bbls, 23046lb, L Windmuller & R, Rotterdam, Rotterdam
150 bbls, 33069lb, G A & E Meyer, De Ruyter, Antwerp
SULPH—6 bbls, 1320lb, Tooh Bros, Zeeland, Antwerp

WAREHOUSED.

ACID CITRIC—20 kgs, 2240lb, McKesson & R, Holland, London
ANILINE COLORS—2 cks, 200lb, Schulze-Berge & K, Saale, B'n
10 pgs, 1010lb, Sykes & Street, Bretagne, Havre
119 pgs, Pickhardt & K, Rotterdam, Rotterdam
26 cs, B Schibach & Co, Zeeland, Antwerp
4 cks, 449lb, Schulze-Berge & K, Zeeland, Antwerp
5 cks, A Klipstein, Holland, London
19 pgs, C Georgi, Zeeland, Antwerp
ANTIMONY OXALATE—20 bbls, 4300lb, Schulze-Berge & K, Zeeland, Antwerp
BAY RUM—25 bbls, 1542 gls, Paris, Allen & Co, Alliance, St T's
10 bbls, 475 gls, D M Monsante, Alliance, St Thomas
10 bbls, 468 gls, C M Roof, Alliance, St Thomas
INDIGO CARMINE—5 cks, 498lb, Schulze-Berge & K, Zeeland, Antwerp
CORKS—57 bls, J Llado, C Margaux, Bordeaux
21 bls, F Llado & Co, Ohio, L'pool
86 bls, F Llado & Co, C Margaux, Bordeaux
GLYCERINE CRUDE—50 dms, 54617lb, Marx & Rawolle, Rotterdam, Rotterdam
REF—15 dms, 16386lb, O Korneman, Zeeland, Antwerp
GLUE—39 pgs, A Hodge, T Hill, London
HEMP SEED—380 bgs, 46129lb, C Von Pustau & Co, Buffalo, Ldn
INDIGOTINE—2 pgs, C Georgi, Zeeland, Antwerp
LICORICE PASTE—300 cs, 75000lb, Carenou & Tur, C Margaux, Bordeaux
LINSEED—1934 bgs, 8038 bush, Atlantic W L & Linseed Oil Co, G R Skoiffe.d, Calcutta
OIL CODLIVER—30 bbls, F Paulsen & Co, P Monarch, Hull
10 bbls, 240 gls, F Paulsen & Co, Holland, London
LINSEED—364 dms, 1820 gls, F W Devoe & Co, T Hill, L'n
OPIUM—6 cs, 870lb, McKesson & R, Iniziativa, Palermo
12 cs, 1668lb, Lanman & K, Buffalo, London
PAINT—12 cs, 1052lb, G Amsinck & Co, Bretagne, Havre
POTASH BICH—85 cks, 73977lb, J L & D S Riker, S of Neb, G'w
SODA BICH—99 cks, 75725lb J L & D S Riker, S of Neb, G'gow
SIZE—6 cks, P Schiffelin, Wieland, Hamburg
SODA CAUSTIC—40 dms, 31815lb, Davis, Wolt & Co, Germanic Liverpool
50 dms 31118lb, J Lee & Co, Germanic, L'pool
SPONGE—56 bls, Lasker & B, Santiago, Nassau
15 bls, L Lasker, Santiago, Nassau
63 bls, J Heineman, Santiago, Nassau
51 bls, Mansell & B, Santiago, Nassau
18 pgs, L DeBebian, Bourgogne, Havre
ULTRAMARINE—20 pgs, 11748lb, Pickhardt & K, Rotterdam, R'm
VANILLINE—4 cs, 400 ozs, L Bernard & Co, Bretagne, Havre

IMPORTS AT PHILADELPHIA.

Week ending March 30.

BARK—75 bls, Rosengarten & Son, Montana, London
BRIMSTONE—1000 tons, Restormel, Palermo
1000 tons, Hollingsworth & P, Restormel, Palermo
CANARY SEED—200 bgs, Restormel, Messina
CHAMOIS—1 cs, Indiana, L'pool
1 cs, Br Prince, L'pool
CHEMICAL SALTS—85 cks, order, Montana, London
15 tons, P Wright & Son, Montana, London
CUDBEAR—2 cks, Montana, London
GLASS WINDOW—1317 bxs, S Sache & Co, Br Prince, L'pool
INDIGO—21 cs, Indiana, L'pool
EXT—3 cks, Indiana, L'pool
3 cks, Br Prince, L'pool
LINSEED—24502 bgs, Anaurus, Calcutta
LOGWOOD—264 tons, G Wessels & Co, Cameo, Montego Bay
NAPHTHALINE—27 cks, Ascherbach & M, Montana, London
OIL ESS—21 cs, Restormel, Messina
SODA ASH—197 cks, 337130lb, Wing & Evans, Indiana, L'pool
CAUSTIC—125 dms, C Smith & Co, Indiana, Liverpool
100 dms, 64994lb, J Lee & Co, Br Prince, L'pool
SAL—50 cks, 23000lb, Wing & Evans, Indiana, L'pool
SUMAC—700 bgs, Restormel, Palermo
TUMERIC—75 bgs, Montana, London

IMPORTS AT BALTIMORE.

Week ending March 30.

ACID CARB—4 cks, A L Thomson, Sardinian, L'pool
19 cs, J J Thomsen, Sardinian, L'pool
BRUSHES—1 cs, J J Thomsen, Rhein, Bremen
CHEMICALS—1 cs, J J Thomsen, Sardinian, L'pool
GUMS—7 pgs, J J Thomsen, Montana, London
GLASS PLATE—30 cs, K P Fr Wilhelm, Bremen
MANURE SALT—500 bgs, K P Fr Wilhelm, Bremen
POTASH MURI—500 bgs, K P Fr Wilhelm, Bremen
SOAP—19 cs, J J Thomsen, Baltimore, L'pool
SODA CAUSTIC—160 dms, 111800lb of the 240 in our last came to Wing & Evans

IMPORTS AT NEW ORLEANS.

Week ending March 30.

BLEACH—74 pgs, Scholar, Liverpool
BUCHU—2 bls, Earl King, London
CEMENT—4859 cks, Earl King, London
200 bbls, C of Lincoln, Liverpool
COLORS—55 cks, 310 dms, Earl King, London
CORKS—30 bls, Earl King, London
SARSAPARILLA—21 bls, S Pizatti, Bocas del Toros
SODA CAUSTIC—572 dms and 25 bbls, Scholar, L'pool
SOAP CASTILE—210 cs, Oma, Genoa
TALC—350 bgs, Oma, Genoa

IMPORTS AT BOSTON

Week Ending March 31.

ARCHIL—20 cks, Br Queen, London
ANTIMONY—20 cks, Phelps, D & Co, Br Queen, London
BLEACH—83 cks, E & F King & Co, Iowa, L'pool
CANARY SEED—100 bgs, Pavonia, L'pool
CHALK—1 lot, R E Burnett, Br Queen, London
CANTHARIDES—3 cs, Cutler Bros & Co, Milanese, London
CARDAMOMS—3 cs, Cutler Bros & Co, Milanese, London
CLOVES—12 bls, Iowa, L'pool
100 bls, Milanese, London
CUTCH—200 cs, Indian Empire, Calcutta
845 bxs, Iowa, L'pool
DYEWOOD EXTRACT—110 cks, Beach & Co, Iowa, L'pool
FUSTIC—11½ tons, J Stevenson, Carlotta, Pt au Prince
FULLERS EARTH—600 bgs, C Kotzenburg, Milanese, London
GELATINE—10 cks, S S Pierce & Co, Pavonia, L'pool
10 cks, J A Hayes & Co, Iowa, L'pool
GALLS—37 bgs, J D Lewis, Br Queen, London
GREASE—3 cks, C W Geiler, Norwegian, Glasgow
30 cks, G H Leonard & Co, Milanese, London
24 cks, order, Milanese, London
GUM OLIB—2 bls, Cutler Bros & Co, Milanese, London
TRAG—42 cs, Milanese, London
INDIGO—74 cs, Br Queen, London
LOGWOOD—89¾ tons, Whitney, P & Co, Conductor, Morant Bay
290½ tons, J Stevenson, Carlotta, Pt au Prince
MATCHES—81 cs, Milanese, London
MAGNESIA CIT—13 cs, Weeks & P, Milanese, London
MANGANESE—25 cks, W C Pope & Co, Pavonia, L'pool
OIL—25 bbls, Br Queen, London
POTASH—50 cks, J L & D S Riker, Norwegian, Glasgow
RHUBARB—2 cs, Cutler Bros & Co, Milanese, London
SENNA—6 bls, order, Milanese, London
SODA ASH—79 cks, J L & D S Riker, Pavonia, L'pool
70 cks, order, Pavonia, L'pool
255 cks, order, Iowa, L'pool
297 cks and 1100 bxs in our last came to Linder & Meyer
CAUSTIC—150 dms, J L & D S Riker, Pavonia, L'pool
100 dms, Iowa, L'pool
CARB—140 bbls, Iowa, L'pool
VARNISH—1 bbl, Br Queen, London
VENETIAN RED—289 bbls, Br Queen, London

GEORGE LUEDERS,

LONDON: 63 Bartholomew Close. **NEW YORK:** 213 Pearl St. **PHILADELPHIA:** 117, 119 Arch Street.

PERFUMER'S RAW MATERIALS.

Pomades, Essential Oils, Almond and Olive Oils, Floral Waters, Tonkin Musk, Ambergris, Vanilla Beans, Otto of Rose, (Ihmsen's and Eski Sagra), Vanillin, Heliotropine, Cumarin.

Branch of **LAUTIER FILS**, Grasse, Paris, London.

SPECIAL FACTORIES FOR OIL OF LAVENDER in Moulinet Suquet Utelle and St. Martin-Lantosque in the High Alpes, near the Italian Frontier where the finest oil is produced.

SPECIAL FACTORY FOR OLIVE OIL—Only high grade oils sold to the trade under guarantee of absolute purity.

Exclusive sale for the Trappe of Staoueli (Algiers) where the finest Oil of Geranium is distilled. No other oil of African Geranium is equal to this in strength and perfume. Original bins of 11 lbs. bear the seal of the convent of Staoueli.

Pomades Saturated No. 36. Tasmin, Tuberose, Cassie, Orange, Tonquille, Reseda and Violet.
Pomades Saturated. Rose No. 48, highest strength ever obtained.
Pomade Lily of the Valley, the only original and genuine, and first introduced in this market.
Pomades in 12 and 25 lb. tins only.

Branch of **HEINE & CO.**, Leipzig, (Germany).

SPECIALTIES.—Oil of Caraway, Carvol, Cedarwood, Coriander, Rhodium, Mace, Thymol, Santalwood, Orris concrete and liquid, Calamus, Cumin, Fennelseed, Juniper, Cinnamon, and MUSTARD ARTIFICIAL, Sp. Grav. 1016.

N. B.—I caution all buyers of Mustard Artificial against oils with less specific gravity than 1016. Oils not giving any specific gravity, or 975, are simply oils reduced with alcohol, and should therefore be refused. Messrs. Heine & Co. guarantee their oil to have a specific gravity of 1016, and state the same on the label of each bottle. Ask for **HEINE'S** original bottle.

Sole Agent For:

P. LASPINA & CO., REGGIO (Cal.) Oil of Bergamot, Lemon and Orange, hand pressed.
Highest grade oils only, no second qualities sold. These oils are the best which can be made.

A. BESARDSHIK FILS, ESKI-SAGRA (near Kazanlik Pure Otto of Rose.

F. & G. HESSEL, NERCHAU-LEIPZIG, Celebrated and finest Colors for Toilet Soaps.

Wholesale Trade Supplied Exclusively.

WITHDRAWALS FROM BOND.

Week ending March 31, 1888.

Acid citric, kgs	15
Aniline colors, pgs	177
Bay rum, pgs	903
Color, cs	15
Corks, bls	87
China clay, tons	70
Dextrine, bgs	50
Dyewood ext, cks	26
Glue, bbl	2
Glass plate, cs	2
Glass window, cs	997
Glycerine ref, dms	9
Indigotin, cs	1
Licorice paste, cs	75
Matches, cs	30
Oil olive, ck	1
Oil linseed, dms	1
Opium, cs	83
Paint, cks	25
Perfume, cs	7
Potato flour, bgs	400
Pomade, cs	14
Potash caustic, dms	47
Potash bicarb, cks	65
Soda caustic, dms	4
Soda bicarb, bgs	30
Sponge, bls	60
Sponge, cs	135
Ultramaline, cks	1
Umber, bgs	280
Vanilline, cs	2

TOTAL DOMESTIC RECEIPTS

FOR WEEK ENDING APRIL 2, 1888.

		For week.	Since Jan 1.
Alcohol	bbls.	75	7303
Ashes	pkgs.	24	529
Beeswax	pkgs.	15	138
Borax	pkgs.	600	9965
	bbls.	..	....
China clay	cks	..	1944
Cottonseed	bags	.	3230
Meal	bgs.	..	11897
Cake	bgs.	250	43567
Soap Stock	bbls.	..	....
Flaxseed	bush.	..	1713
Grease	pkgs	593	10598
High Wines	bbls.	689	16853
Lead	pigs	15704	122,835
Mustard seed	bgs.	274	5717
Oil, Cottonseed	bbls.	2120	43731
Lard	bbls.	..	1657
Linseed	bbls.	..	....
Lubricating	bbls	64	10774
Cake	bags	3163	49299
Oleo stock	pkgs.	285	3777
Pitch	bbls.	220	715
Quicksilver	flks.	..	2501
Rosin	bbls.	9992	89927
Stearine	pkgs.	167	410
Sumac	bags	..	23957
Tallow	pgs.	967	15802
Tar	bbls.	385	7399
Turpentine, crude	bbls		457
Spirits	bbls.	1024	14206

NEW YORK DOMESTIC RECEIPTS

For week ending April 2.

ALCOHOL—75 bbls, J A Webb, H R RR
ASHES—13 pgs, order, Erie RR
11 pgs, order, H R RR
BARK—1558 bgs, N Y, D E & C Co, str, Richm'd
BEESWAX—6 bbls, order, str, Wilmington
4 bbls, order, str, Richmond
1 pkg, Belt & B, str, New Orleans
1 pkg, H L Pence, str, Savannah
3 pgs, Belt & B, str, Richmond
BONES—52 hhds, Lister Bros, str, New Orleans
23 bgs, order, str, S F
BORAX—400 sks, Delafield, M R & Co, str, Sav
200 bbls, 4651 bgs, order, str, S F
CEMENT COPPER—372 pgs, order, str, S F
COTTONSEED ASHES—530 bgs, order, str, N O
CAKE—250 bgs, So Oil Co, str, New Orleans
FUSTIC—10802 pcs, J W Wilson & Co, str, N O
GREASE—200 pgs, order, N R boats
21 pgs, order, N Y, N H & H RR
16 pgs, A L Knight, Penn RR
38 pgs, order, Penn RR
8 pgs, J H Welch, C RR of N J
64 pgs, Fayerweather & L, str, Richmond
8 pgs, order, B & O RR
20 pgs, Snyder & M, D L & W RR
70 pgs, J Cinnamon, D L & W RR
6 pgs, order, C RR of N J
7 pgs, C S Higgins & Son, str, Richmond
65 tcs, Pool & M, Erie RR
10 pgs, Welch, H & C, P nn RR
60 pgs, G Vandenhove, Penn RR
HIGH WINES—195 bbls, J L Hasbrouck, D, L & W RR
299 bbls, G W Kidd & Co, D, L & W RR
195 bbls, J Griffith & Co, Penn RR
LEAD—1875 pigs, N Corwith & Co, str, Richm'd
570 pigs, Colwell Lead Co, H R RR
323 pigs, Phelps, D & Co, H R RR
3280 pigs, order, Penn RR
6800 pigs, order, H R RR
2440 pigs, order, str, S F
416 pigs, various, H R RR
MUSTARD SEED—274 sks, order, str, San Fran
OIL—150 bbls, order, str, S F
COTTONSEED—5 bbls, order, C RR of N J
350 bbls, order, str, New Orleans
300 bbls, Hopkins, D & Co, str, Savannah
450 bbls, So Oil Co, str, Savannah
130 bbls, J Macy's Sons, str, Savannah
561 bbls, So Oil Co, str, Richmond
120 bbls, Am Oil Co, str, Richmond
7 bbls, W H Wiggins, str, Richmond
50 bbls, W J Bowers & Co, str, Richmond
81 bbls, order, N R boats
66 bbls, G H Williams, Penn RR
LUBRICATING—64 bbls, order, Erie RR
CAKE—1466 bgs, I & C Moore & Co, Penn RR
100 bgs, I H Reed & Co, H R RR
950 bgs, Simmonds & G, L V RR
250 bgs, order, B & O RR
92 bgs, Simmonds & G, N Y, W S & B RR
110 bgs, S H Weeks, Erie RR
195 bgs, order, Erie RR
OLEO STOCK—60 pgs, R C Coleman, Penn RR
65 tcs, H Loeb, B & O RR
70 pgs, J Herzog, Penn RR
90 pgs, order, H R RR
PITCH—50 bbls, R F Seaman, str, Wilmington
10 bbls, forward, str, Wilmington
160 bbls, order, str, Wilmington
ROSIN—90 bbls, Fenner & Co, str, Wilmington
150 bbls, Thayer L & Co, str, Wilmington
184 bbls, F W Blossom, str, Wilmington
50 bbls, Tolar & H, str, Wilmington
500 bbls, M W Larendon, str, Wilmington
2200 bbls, order, sch, Georgetown
100 bbls, F W Blossom, str, Savannah
800 bbls, Dutton & W, str, Savannah
240 bbls, J Turton's Sons, str, Savannah
145 bbls, Tolar & H, str, Georgetown
523 bbls, G Potter & Co, str, Georgetown
110 bbls, Z Mills, str, Georgetown
2071 bbls, forward, str, Savannah
400 bbls, Murchison & Co, str, Savannah
250 bbls, Welch H & Co, str, Savannah
249 bbls, G Potter & Co, str, Savannah
259 bbls, Paterson D & Co, str, Richmond
200 bbls, G Potter & Co, str, Richmond
904 bbls, G W Bailey & Co, str, Richmond
27 bbls, Hueston & Co, str, Richmond
132 bbls, Tolar & H, str, Richmond
8 bbls, Fenner & Co, str, Richmond
SARSAPARILLA—6 bls, order, Str, N O
STARCH—500 pgs, order, Penn RR
600 pgs, order, H R RR
STEARINE—122 pgs, Pool & M, Penn RR
14 pgs, Central L Co, Penn RR
6 pgs, order, Penn RR
25 pgs, Central L Co, C RR of N J
TALLOW—124 pgs, order, N R boats
18 pgs, order, Erie RR
16 pgs, order, Penn RR
12 pgs, order, C RR of N J
3 pgs, Fowler Bros, Erie RR
15 pgs, G Vandenhove, Penn RR
42 pgs, B T Babbitt, Penn RR
60 pgs, G B Ferris & Co, Penn RR
5 pgs, E M Kutz, L V RR
7 pgs, H W Calef, C RR of N J
10 pgs, H W Calef, D L & W RR
14 pgs, G B Ferris & Co, D L & W RR
100 pgs, G Vandenhove, N Y W S & B RR
5 pgs, order, N Y O & W RR
25 pgs, Welch, H & Co, L V RR
9 pgs, C S Higgins, C RR of N J
52 pgs, G Vandenhove, N R boats
12 pgs, Welch, H & C, N R boats
25 pgs, G P Taylor, N R boats
40 pgs, Welch, H & C, H R RR
19 pgs, H W Calef, H R RR
124 pgs, E Winter, Penn RR
8 pgs, order, D L & W RR
40 pgs, E S Kuh, N Y W S & B RR
36 pgs, P H Van Iderstine, C RR of N J
35 pgs, Welch, H & C, str, Richmond
20 pgs, Delong & W, str, Richmond
9 pgs, order, H R RR
60 pgs, R C Coleman, Penn RR
10 pgs, H W Calef, L V RR
12 pgs, order, N Y, W S & B RR
TAR—55 bbls, R F Seaman & Co, str, Wil
100 bbls, J A Casey, str, Wilmington
91 bbls, forward, str, Wilmington
108 bbls, order, str, Wilmington
31 bbls, Z Mills, str, Richmond
TURPENTINE SP—125 bbls, F W Blossom, str, Wilmington
72 bbls, Paterson, D & Co, str, Wilmington
68 bbls, Tolar & H, str, Wilmington
60 bbls, forward, str, Wilmington
11 bbls, Tolar & H, str, Richmond
2 bbls, Paterson, D & Co, str, Richmond
5 bbls, G W Bailey & Co, str, Richmond
416 bbls, F W Blossom, str, Savannah
107 bbls, Tolar & H, str, Savannah
31 bbls, Tolar & H, str, Georgetown
4 bbls, G Potter & Co, str, Georgetown
32 bbls, Z Mills, str, Georgetown
100 bbls, forward, str, Savannah

CHARLESTON DOMESTIC RECEIPTS

For week ending March 31.

CLAY—193 cks, S C RR
COTTONSEED MEAL—6 cars, C & S RR
FERTILIZER—350 sks, N E RR
OIL—4 cars, N E RR
ROSIN—394 bbls, N E RR
34 bbls, C & S RR
370 bbls, S C RR
TURPENTINE—37 bbls, N E RR
13 bbls, C & S RR
33 bbls, S C RR

BOSTON DOMESTIC RECEIPTS

Week ending March 31.

GREASE—257 bbls, 2 pgs, B & A RR
112 bbls, 4 pgs, N Y & N E RR
58 bbls, B & P RR
55 bbls, Old Colony RR
42 bbls, Fitchburg RR
88 bbls, B & M RR
118 cks, 4 bbls, by sea
1 bbl, by express
OCHER—82 bbls, str, Savannah
ROSIN—47 bbls, str, Savannah
TALLOW—58 bbls, 6 tcs, Old Colony RR
83 bbls, N Y & N E RR
114 bbls, 2 cks, 6 pgs, B & M RR
32 bbls, B & A RR
23 bbls, Fitchburg RR
1 bbl, B & P RR
TURPENTINE—253 bbls, str, Savannah

WILMINGTON DOMESTIC RECEIPTS

Week ending March 31.

ROSIN—2448 bbls, inland
TAR—2322 bbls, inland
TURPENTINE SP—254 cks, inland
CRUDE—70 bbls, inland

NEW ORLEANS DOMESTIC RECEIPTS.

For the week ending Mar. 30

ALCOHOL—46 bbls, Ill C RR
BONES—62 sks, str, Martinsville
CANDLES—1 car, N O & N E RR
40 bxs, Cincinnati
CEMENT—500 bbls, Cincinnati
CLAY—250 bbls, Fish River
COTTONSEED—650 sks, Jackson Ferry
1675 sks, Bayou Sara
10 sks, St Louis
630 sks, Shreveport
235 sks, Monroe
2 cars, L N O & T RR
2217 sks, Greenville
8317 sks, Washington
500 sks, Sou Pac RR
1 car, Tex & Pac RR
HULL—5 cars, L N O & T RR
1 car, Sou Pac RR
MEAL—11 cars, L N O & T RR
900 sks, Shreveport
GLUCOSE—100 bbls Ill C RR
200 bbls, L N O & T RR
OIL—340 bbls, Sou Pac RR
100 bbls, Tex & Pac RR
30 bbls, St Louis
10 cars, N O & N E RR
434 bbls, Monroe
60 bbls, 1 car, L N O & T RR
CAKE—8 cars, L N O & T RR
PITCH—1 car, Louis & Nash RR
ROSIN—850 bbls, Mobile
150 bbls, Pearl River
5 cars, N O & N E RR
SOAP—320 bxs, St Louis
300 bxs, Cincinnati
1 car, N O & N E RR
STARCH—250 bxs, Cincinnati
TALLOW—50 bbls, Sou Pac RR
8 bbls, Tex & Pac RR
1 car, N O & N E RR
WAX—1 sk, St Martinville
WHITE LEAD—50 pgs, St Louis
47 kgs, Cincinnati

EXPORTS FROM NEW YORK FOR THE WEEK ENDING APL. 2

ACID

199 cbys $630 Onalaska, Havana
2 cbys $14 R Ettrick, Porto Rico
50 cbys $155 Enrita, Cienfuegos
1 cs $3 C of Para, Colon
1 cs $2 Muriel, West Indies

ACID CARBOLIC

2 bbls $95 C of Columbia, Mexico

ACID OXALIC

1 bbl $15 C of Columbia, Havana

ACID MURIATIC

40 cbys $113 Enrita, Cienfuegos

ACID STEARIC

14784 lbs $1478 C of Columbia, Mexico

ACID SULPHURIC

1 cby $3 Mexico, Mexico
10 cbys $26 Orinoco, Hamilton
10 cbys $36 Phila, Venezuela

ALCOHOL

10 gls $7 Atlas, Savanilla
3419 gls $1094 C of Para, Colon

ALCOHOL WOOD

3492 gls $2345 L Monarch, London

AMMONIA

19 dms $1263 L Monarch, London

ANISEED

20 bgs $256 Atlas, Savanilla

ANNATTO

2184 lbs $655 Bengloe, London

ANILINE COLORS

1 kg $75 Servia, Liverpool

BARK EXTRACT

30000 lbs $2400 Rotterdam, Rotterdam

BEESWAX

324 lbs $72 L Monarch, London

CANDLES

21 bxs $79 Newport, Colon
4 bxs $9 Orinoco, Hamilton
2 bxs $6 Philadelphia, Curacoa
180 bxs $190 Philadelphia, Venezuela
3 bxs $5 Samana, Grand Turk
365 bxs $634 R Ettrick, Pto Rico
2 cs $23 Atlas, Savanilla
6 bxs $16 Mexico, Mexico
104 bxs $345 Ozama, Hayti
113 bxs $388 Muriel, West Indies

CARBON

64 bbls $492 Rhaetia, Hamburg
17 bbls $102 Wieland, Hamburg
40 bbls $150 Elder, Bremen
10 bbls $70 Alsatia, Genoa

CASSIA

30 bls $91 Philadelphia, Venezuela

CEMENT

5 bbls $6 Orinoco, Hamilton
7 bbls $20 Samana, Grand Turk
6 cs $50 Poterny, Buenos Ayres

COTTONSEED

6000 lbs $260 T Hill, London

COTTONSEED CAKE

430000 lbs $5000 Croma, Leith

COAL TAR PITCH

297 tons $350 Alsatia, Genoa

CUMMIN SEED

18890 lbs $1200 L Monarch, London

DYESTUFF

9570 lbs $692 City of Richmond, Liverpool

DYEWOOD EXTRACT

20000 lbs $1180 Rhaetia, Hamburg
7909 lbs $980 Rotterdam, Rotterdam
21800 lbs $1156 Alsatia, Genoa
15678 lbs $937 France, London

FARINA

235 bgs $960 Philadelphia, Venezuela

FISH GUANO

92 bbls $307 Orinoco, Hamilton
500 bbls $1609 R Ettrick, Pto Rico

GALL EXTRACT

1550 lbs $ Wieland, Hamburg

GASOLINE

200 gls $62 R Ettrick, Porto Rico

GLASS, WINDOW

10 bxs $28 Newport, Colon
6 bxs $23 Orinoco, Hamilton

GLUE

2 bbls $43 City of Columbia, Mexico
3 bbls $69 City of Columbia, Havana
1 bbl $30 Philadelphia, Curacao
1 bbl $20 Philadelphia, Venezuela
3 cs $30 Low Wood, Adelaide
1 kg $19 A B Hutchison, Porto Rico
6 bbls $237 Mexico, Havana
6 bbls $ 33 Saratoga, Havana
2340 lbs $485 C of Para, Colon

GRAPE SUGAR

32050 lbs $1923 Rhaetia, Hamburg
60480 lbs $1701 France, London

GREASE

17568 lbs $404 Rhaetia, Hamburg
2118 lbs $79 Newport, Colon
45300 lbs $1667 City of Columbia, Mexico
22310 lbs $100 Bessel, Liverpool
85335 lbs $6100 Bourgogne, Havre
22906 lbs $931 City of Atlanta, Vera Cruz
1518 lbs $46 Mexico, Mexico
20733 lbs $777 Wieland, Hamburg

GUARANA

12 cs $1800 Bourgogne, Havre

GUM CHICLE

20 cs $450 Servia, Liverpool

GUM INSOLUBLE

1857 lbs $112 France, London

GOLDEN SEAL

336 lbs $194 Wieland, Hamburg

INDIGO

50 lbs $50 France, London

ISINGLASS

90 lbs $200 Wieland, Hamburg

LACQUER

100 gls $300 L Monarch, London

LAMPBLACK

100 bbls $500 Wieland, Hamburg

LOGWOOD EXTRACT

2400 lbs $250 Potengy, Buenos Ayres
12000 lbs $1200 Wieland, Hamburg

LUBRICATING GREASE

16 cs $52 Low Wood, Adelaide
23085 lbs $526 Low Wood, Adelaide
4008 lbs $102 Saratoga, Havana
58 lbs $15 Ozama, Hayti
9011 lbs $514 C of Para, Colon
2 cs $16 City of Para, Colon

MATCHES

1 cs $5 Newport, Colon
1 cs $7 Orinoco, Hamilton
1 cs $11 Phila, Curacoa
1 cs $15 Samana, Grand Turk
13 cs $136 Atlas, Savanilla
3 cs $37 Ozama, Hayti

OIL ALMOND

26 cs $319 Philadelphia, Venezuela
3 cs $29 City of Para, Colon

OIL ANISE

1 cs $10 Atlas, Savanilla

OIL CAKE

484078 lbs $6051 Bengloe, London
232365 lbs $3900 France, London
509533 lbs $7544 E City, Bristol
131150 lbs $1640 Newnham, London
240000 lbs $2200 L Monarch, London
223000 lbs $2500 Galileo, Hull
485150 lbs $6060 Bessel, L'pool
287464 lbs $3565 Bassano, Hull
191400 lbs $2400 Bassano, London
326650 lbs $4356 Utopia, Avon
78000 lbs $1170 C of Richmond, L'pool
1134049 lbs $14400 France, London

OIL CASTOR

29 gls $14 Athos, Savanilla

OIL CEDAR

180 gls $650 Wieland, Hamburg

OIL COD

1720 gls $455 Low Wood, Adelaide

OIL CODLIVER

6 cs $42 Philadelphia, Venezuela
10 cs $258 R Ettrick, Pto Rico
66 cs $534 C of Atlanta, Vera Cruz
4 cs $33 Atlas, Savanilla
40 cs $340 Saratoga, Havana
2 cs $33 Ozama, Hayti
12 cs $540 Caracas, La Guayra
7 cs $315 City of Para, Colon
36 cs $1044 Saale, Montevideo

OIL COTTONSEED
50 gls $20 C of Columbia, Mexico
51 gls $24 Philadelphia, Venezuela
1500 gls $800 Low Wood, Adelaide
1250 gls $503 Bothnia, Belfast
153 gls $77 Muriel, West Indies
3744 gls $1194 Muriel, Barbadoes

OIL ESSENTIAL
20 cs $1083 Bengloe, London
10 cs $533 Newnham, London
2 cs $310 Bassano, London
1 cs $305 Wieland, Hamburg

OIL GINGER
6 cs $103 Wieland, Hamburg

OIL LARD
103 gls $75 Burnley, St Croix
613 gls $293 Newport, Colon
1000 gls $600 C of Columbia, Mexico
147 gls $95 Phila, Curacao
1239 gls $600 Spain, Liverpool
2585 gls $1660 Servia, Belfast
480 gls $150 Low Wood, Adelaide
101 gls $65 Atlas, Savanilla
1230 gls $600 Arizona, L'pool

OIL LEMONGRASS
585 lbs $380 Wieland, Hamburg

OIL LINSEED
56 gls $34 Orinoco, Hamilton
300 gls $277 C of Columbia, Mexico
251 gls $146 Phila, Venezuela
102 gls $80 S M Todd, Nuevitas
25 gls $16 Atlas, Savanilla
gls $31 Ozama, Hayti
50 gls $38 C of Para, Colon
34 gls $24 Muriel, West Indies

OIL LUBRICATING
3000 gls $1500 Procida, Santos
1728 gls $500 City of Columbia, Mexico
129 gls $103 Philadelphia, La Guayra
350 gls $112 Potengy, Buenos Ayres
23750 gls $4000 E City, Bristol
68023 gls $11747 L Monarch, London
37494 gls $6380 Galileo, Hull
3807 gls $800 Bourgogne, Havre
1260 gls $125 Servia, Liverpool
2587 gls $563 Low Wood, Adelaide
706 gls $155 Atlas, Savanilla
146 gls $89 Saratogo, Havana
1514 gls $868 Mexico, Mexico
129 gls $57 Ozama, Hayti
743 gls $125 P Monarch, Hull
18851 gls $1988 Ohio, Liverpool
303 gls $51 Enrita, Cienfuegos
27000 gls $2400 Zeeland, Antwerp
4999 gls $8000 Bretagne, Havre
16350 gls $4293 Wyoming, Liverpool
24650 gls $4250 Otranto, Newcastle
29150 gls $4800 C of Richmond, Live pool
49750 gls $8000 Ethiopia, Glasgow
1345 gls $531 Alsatia, Genoa
12232 gls $1862 Wieland, Hamburg

OIL MEAL
21750 lbs $350 E Star, Bridgetown
12500 lbs $150 Daylight, Pt Spain
75000 lbs $1150 Talisman, Pt Spain
21185 lbs $340 Muriel, West Indies

OIL NEATSFOOT
4985 gls $3100 Bourgogne, Havre

OIL OLEO
116577 lbs $11653 Rhaetia, Hamburg
52095 lbs $3162 Rotterdam, Rotterdam
8428 lbs $688 Ethiopia, Glasgow
34535 lbs $3655 Wieland, Hamburg

OIL PEPPERMINT
560 lbs 1330 Newnham, London
50 lbs $120 L Monarch, London
720 lbs $700 Bothnia, Liverpool
1129 lbs $2786 Wieland, Hamburg

OIL ROSIN
990 gls $98 Mexico, Havana

OIL SPERM
500 gls $375 Rotterdam, Rotterdam

OIL WHALE
49 gls $31 Orinoco, Hamilton

OPIUM
719 lbs $3020 City of Atlanta, Vera Cruz
312 lbs $856 Saratoga, Havana

PAINT
1 cs $13 Burnley, St Croix
33 pgs $400 Mexico, Mexico
10 cs $130 Rhaetia, Hamburg
1 cs $2 Ozama, Grand Turk
6 cs $14 Marmion, Bocas de Toros
60 cs $378 Saratoga, Havana
4 pgs $33 Newport, Colon
28 pgs $69 Ozama, Hayti
1 cs $4 Orinoco, Hamilton
8 pgs $38 Atlas, Savanilla
2 pgs $11 City of Columbia, Mexico
3 kgs $3 Ethiopia, Glasgow
3 kgs $47 Philadelphia, Curacoa
54 pkgs $394 Mexico, Havana
50 pkgs $257 Philadelphia, La Guayra
2 cs $13 Enrita, Cienfuegos
1 cs $12 Samana, Grand Turk
1 cs $5 S M Todd, Nuevitas
1 cs $10 R Ettrick, Porto Rico
15gs $330 Bassano, London
17 pgs $359 Low Wood, Adelaide
2 pgs $13 A B Hutchison, Porto Rico
9 pgs $30 Anita, St John, N B
26 cs $209 City of Para, Colon
1 cs $7 Muriel, West Indies

PARAFFINE WAX
5500 lbs $560 Bengloe, London
226902 lbs $2350 L Monarch, London
2400 lbs $135 Servia, Liverpool
247750 lbs 18000 Bassano, London
103331 lbs $4490 Ethiopia, Glasgow
34590 lbs $1260 Ethiopia, Glasgow
619750 lbs $54000 France, London

PEPPER
6 bgs $126 City of Columbia, Mexico
15 bgs $670 Philadelphia, La Guayra
28 bgs $570 R Ettrick, Porto Rico
10 bgs $177 A B Hutchison, Porto Rico
3 bgs $56 Ozama, Hayti

PETROLINA
5 cs $55 A B Hutchison, Pto Rico
2223 lbs $116 France, London

PITCH
4 bbls $7 Atlas, Savanilla
9 bbls $12 Saratoga, Havana
16 bbls $21 Mexico, Havana
4 bbls $7 Ozama, Hayti
2 bbls $8 Muriel, West Indies

QUICKSILVER
20 flks $806 City of Para, Colon

ROSIN
701 bbls $1725 Hipparchus, London
1019 bbls $1670 Rhaetia, Hamburg
50 bbls $95 Unda, Parahiba
70 bbls $193 Phila, La Guayra
30 bbls $67 Santiago, Cienfuegos
401 bbls $887 Low Wood, Adelaide
1 bbl $3 Atlas, Savanilla
22 bbls $45 Mexico, Havana
45 bbls $135 Enrita, Cienfuegos
301 bbls $650 Fortunata, Oporto
309 bbls $650 Ethiopia, Glasgow
1425 bbls $2934 France, London
1 bbl $3 Muriel, West Indies

SAGO
12600 lbs $500 L Monarch, London

SARSAPARILLA
8 bls $293 L Monarch, London

SIZE
881 lbs $74 Anchoria, Glasgow

SOAP
13 bxs $15 Ozama, Grand Turk
1 bx $4 Rhaetia, Hamburg
1 bx $2 Marmion, Bocas de Toros
648 bxs $1120 Newport, Colon
214 bxs $369 Orinoco, Hamilton
13 bxs $38 Samana, Grand Turk
130 bxs $918 E City, Bristol
2 cs $33 Newnham, London
3 pgs $63 L Monarch, London
1 bx $7 Servia, Liverpool
2 cs $59 Atlas, Savanilla
2 cs $60 Saratoga, Havana
752 bxs $420 Ozama, Hayti
1 cs $27 Alsatia, Genoa
858 bxs $1569 City of Para, Colon
2 cs $55 Saale, Buenos Ayres
566 bxs $1653 France, London
8 bxs $38 Muriel, West Indies

SPONGE
5010 lbs $3142 Servia, L'pool
650 lbs $322 Saale, Vienna

SODA CARB
10 bbls $76 Mexico, Mexico

SODA CAUSTIC
34 dms $444 C of Columbia, Mexico
16 dms $195 C of Atlanta, Mexico
2 dms $66 Saratoga, Havana

SODA SILICATE
4 tcs $20 Enrita, Cienfuegos

SPERMACETI
387 lbs $135 L Monarch, London
3158 lbs $1150 Wieland, Hamburg

STARCH
25 pgs $73 Newport, Colon
6 bxs $18 Orinoco, Hamilton
5 cts $23 Potengy, Buenos Ayres
9 bxs $13 Samana, Grand Turk
20 bgs $146 C of Atlanta, Vera Cruz
3 bxs $5 Ozama, Grand Turk

SUMAC EXTRACT
12301 lbs $470 C of Richmond, L'pool

STEARINE
4696 lbs $547 Mexico, Mexico
130509 lbs $5196 C of Columbia, Mexico
9382 lbs $600 Bourgogne, Havre

TALLOW
42214 lbs $2132 City of Columbia, Mexico
49350 lbs $2365 Bourgogne, Havre
40913 lbs $3199 City of Atlanta, Vera Cruz
2536 lbs $146 Atlas, Savanilla
22675 lbs $1294 Mexico, Mexico
549 lbs $51 Ozama, Hayti
22500 lbs $1255 Ethiopia, Glasgow
1743 lbs $93 City of Para, Colon
3172 lbs $180 Muriel, West Indies
40000 lbs $2700 Wieland, Hamburg

TAR
1 bbl $3 Marmion, Bocas de Toros
1 cs $7 Newport, Colon
5 bbls $12 M J Foley, Georgetown
2 cs $5 Atlas, Savanilla
24 pgs $75 Saratoga, Havana
50 pgs $94 Mexico, Havana
24 pgs $96 Mexico, Mexico

TURPENTINE
236 gls $129 City of Columbia, Mexico
30 gls $15 Philadelphia, Venezuela
500 gls $200 Potengy, Buenos Ayres
273 gls $123 R Ettrick, Porto Rico
5473 gls $2500 Low Wood, Adelaide
23 gls $10 Atlas, Savanilla
256 gls $118 Saratoga, Havana
779 gls $337 Mexico, Havana
147 gls $59 Enrita, Cienfuegos
10 gls $6 City of Para, Colon
2000 gls $940 Procida, Santos
157 gls $77 Muriel, West Indies
53 gls $24 Muriel, Barbadoes

VARNISH
190 gls $800 Rhaetia, Hamburg
12 gls $11 Philadelphia, Curacoa
205 gls $216 Philadelphia, Venezuela
514 gls $242 Newnham, London
106 gls $139 Elder, Buenos Ayres
60 gls $63 Elder, Montevideo
10 gls $20 Bourgogne, Havre
51 gls $38 R Ettrick, Porto Rico
125 gls $450 Bassano, London
1322 gls $760 St Ronans, Liverpool
50 gls $40 A B Hutchison, Porto Rico
20 gls $18 Atlas, Savanilla
256 gls $197 Saratoga, Havana
333 gls $267 Mexico, Havana
60 gls $56 Mexico, Mexico
30 gls $111 Anita, St Johns, N B
20 gls $19 Saale, Buenos Ayres
240 gls $253 Saale, Manila
20 gls $13 Muriel, West Indies
10 gls $8 Muriel, Barbadoes
130 gls $600 Wieland, Hamburg

VASELINE
144 cs $5617 Hipparchus, London
44 cs $707 Potengy, Buenos Ayres
10 cs $333 Galileo, Hull
1 cs $40 Germanic, Liverpool
4 cs $96 Muriel, West Indies
1 cs $20 Muriel, Barbadoes

WHITE LEAD
5 cs $35 City of Columbia, Mexico

WHITING
10 bbls $36 Anita, St John, N B

New York to San Francisco.

Per str City of Para, cleared via Isthmus, March 31.
Canary Seed—100 bgs, $660
Dyewood—25 bbls, $146
Oil Lubricating—3015 gls, $504
Paint—69 pgs, $1613
Soap—175 bxs, $1096
Soap Castile—50 bxs, $270
Varnish—1880 gls, $2684
White Lead—90 pgs, $1438

New Orleans Exports.

For week ending March 30.

COTTONSEED
673 sks, Andean, Liverpool

COTTONSEED MEAL
5600 sks, Professor, Liverpool
3360 sks, Dupuy de Loure, Antwerp
15000 sks, Sir Henry Lawrence, London
5600 sks, Nasmyth, Liverpool

OIL COTTONSEED
200 bbls, Dupuy de Lorne, Havre
200 bbls, Dupuy de Lorne, Antwerp

OIL CAKE
4805 sks, Professor, Liverpool
450 sks, Dupuy de Lorne, Antwerp
11362 sks, Sir Henry Lawrence, London
8203 sks, Nasmyth, Liverpool

SOAP
10 bxs, S Oteri, Truxillo

TALLOW
318 tcs, Dupuy de Lorne, Havre

Boston Exports

For week ending March 31.

ACID, SULPHURIC
88 cbys, E H Foster, St John

ASBESTOS
240 bgs, Borderer, London
240 bgs, Scotland, London

BEESWAX
1 pg, Carroll, Halifax

BRUSHES
2 bgs, Borderer, London
13 pgs, Bessie Louisa, St Pierre

CANDLES
2 bxs, W H Raymond, Harbor Grace, etc
4 cs, Wm Jones, Hayti

CEMENT
25 bbls, A L Butler, Cienfuegos
50 bbls, Bessie Louisa, St Pierre

CHALK
5 cs, Persian Monarch, Hull
15 pgs, Carroll, Halifax

COTTONSEED MEAL
140 bgs, E H Foster, St John

COLORS
163 pgs, Yarmouth, Yarmouth

DYESTUFFS
200 bxs, Borderer, London

DYEWOOD
340 bxs, Persian Monarch, Hull

ESSENCE
6 bxs, Bessie Louisa, St Pierre

EXTRACT, LOGWOOD
52 bxs, Carroll, Halifax

GAMBIER
7 bls, Bessie Louisa, St Pierre
7 bls, Cardegai, St Pierre

GLASS, WINDOW
4 bxs, Bessie Louisa, St Pierre

GLUCOSE
1 bbl, Carroll, Halifax

GLUE
22 cts, 24 cs, Borderer, London

OCHER
2 bbls, Cardegai, St Pierre

OIL
60 cs, William Jones, Hayti
1 bbl, Carroll, Halifax

OIL, LINSEED
8 bbls, 4 hf bbls, 4 qr bbls, Bessie Louisa, St P're
3 bbls, Cardegai, St Pierre

OIL, LUBRICATING
10 hf bbls, Carroll, Halifax

OIL SALAD
5 bbls, Norseman, L'pool
25 bbls, Scotland, London

OIL TALLOW
247 tcs, Borderer, London

OILCAKE
375 bgs, Catalonia, L'pool
517 bgs, Norseman, L'pool

PAINT
10 bxs, Yarmouth, Yarmouth
15 cs, Norseman, L'pool
25 cs, Scotland, London
8 pgs, Cardegai, St Pierre

PAINT, COPPER
10 cs, Carroll, Halifax
2 cs, Cardegai, St Pierre

PITCH
10 bbls, W H Raymond, Harbor Grace, etc
10 bbls, Argonaut, Harbor Grace, etc
20 bbls, Carroll, Halifax
20 bbls, Cardegai, St Pierre

POTASH
37 bxs, Scotland, London

SOAP
4 cs, Borderer, London
38 bxs, W H Raymond, Harbor Grace, etc
70 bxs, Argonaut, Harbor Grace, etc
6 bxs, Bessie Louisa, St Pierre

SODA SAL
5 cks, Cardegai, St. Pierre

STARCH
100 bbls, Norseman, L'pool

SUPERPHOSPHATES
300 bgs, Maud W, St Andrew

TALLOW
130 tcs, Scotland, London
7 bbls, Bessie Louisa, St. Pierre
1 bbl, Cardegai, St Pierre

TAR
9 bbls, W H Raymond, Harbor Grace, etc
20 bbls 73 cs, Cardegai, St Pierre

TURPENTINE
1 bbl, W H Raymond, Harbor Grace, etc

TURPENTINE SPIRITS
2 bb'ls, Bessie Louisa, St Pierre
2 bbls, Cardegai, St Pierre

VARNISH
1 bbl, Bessie Louisa, St. Pierce
2 bbls, Carroll, Halifax

WHITE LEAD
30 kgs, Eolian, Meteghan
50 pgs, Yarmouth, Yarmouth

Charleston Exports

Week ending March 31.

ROSIN
3763 bbls, Walle, Hamburg

Philadelphia Exports.

Week ending March 29.

BARK EXTRACT
25 bbls, British Prince, Liverpool

GLUE
85 bbls, Chester, Rotterdam

OIL CAKE
2999 bgs, Montana, London

PAINT
36 bbls, Chester, Rotterdam

PITCH
890 tons, Angelica Accame, Genoa

SOAP
290 bxs, Montana, London

TALLOW
100 cks, British Prince, Liverpool

San Francisco Exports.

For week ending March 20.

BENZINE
1 cs, Newbern, Mexico

BORAX
7 lbs, Newbern, Mexico
220 lbs, Colima, Central America

BRUSHES
1 pg, Newbern, Mexico
2 pgs, J D Spreckels, Kahului
1 pg, Josephine, Mexico

CANDLES
20 bxs, Umatilla, Victoria
100 bxs, Ella, Honolulu
1038 bxs, Newbern, Mexico
50 bxs, J D Spreckels, Kahului
50 cs, Josephine, Mexico
20 bxs, Colima, Central America

CEMENT
10 bbls, Newbern, Mexico
500 bbls, Aldergrove, Vancouver
250 bbls, Josephine, Magdalena Bay

CORKS
1 pg, Newbern, Mexico

GINSENG
23967 lbs, City of Peking, China

GLUE
1 bbl, Josephine, Mexico

GREASE, LUBRICATING
10 pgs, Patterdale, Melbourne
21 pgs, Newbern, Mexico
5 pgs, J D Spreckels, Kahului

OIL COAL
31 cs, Newbern, Mexico
10 cs, Josephine, Magdalena Bay
260 gls, Josephine, Mexico
30 cs, Colima, Cent Am

OIL LARD
1028 gls, Ella, Honolulu
343 gls, J D Spreckels, Kahului
20 gls, Josephine, Magdalena Bay
7 gls, Josephine, Mexico

OIL LINSEED
5 cs, Newbern, Mexico
30 gls, Josephine, Magdalena Bay
10 gls, Josephine, Mexico

OIL LUBRICATING
50 cs, Newbern, Mexico
2 cs, Josephine, Mexico

OIL MACHINE
1 pg, Umatilla, Victoria

OIL OLIVE
5 cs, Josephine, Magdalena Bay

OIL SPERM
250 gls, City of Peking, China

OIL VARIOUS
66 cs, Newbern, Mexico
5 pgs, J D Spreckels, Kahului
118 pgs, Josephine, Mexico

OIL WHALE
153 gls, J D Spreckels, Kahului
140 gls, City of Peking, China

OIL CAKE MEAL
17 pgs, Umatilla, Victoria

PAINT
3 pgs, Umatilla, Victoria
8 pgs, Umatilla, in transit
39 pgs, Newbern, Mexico
43 pgs, J O Spreckels, Kahului
8 pgs, Josephine, Magdalena Bay
49 pgs, Josephine, Mexico

PITCH
2 bbls, Umatilla, Victoria
1 bbl, Newbern, Mexico

QUICKSILVER
2 flks, Newbern, Mexico
510 flks, City of Peking, China
167 flks, Josephine, Mexico
140 flks, Colima, Cent Am

ROSIN
2 bbls, Josephine, Magdalena Bay

SAGO
1906 lbs, Newbern, Mexico
768 lbs, Josephine, Mexico

SOAP
5 bxs, Umatilla, Victoria
6 bxs, Newbern, Mexico
202 bxs, City of Peking, China
25 bxs, City of Peking, Japan
80 bxs, Josephine, Magdalena Bay
12 bxs, Colima, Central America

SODA
2444 lbs, Josephine, Mexico

SPICES
11 kgs, Newbern, Mexico
1 pg, Josephine, Magdalena Bay
18 pgs, Josephine, Mexico
7 pgs, Colima, Central America
1 cs, Colima, Panama

STARCH
1 pg, Umatilla, Victoria
73 pgs, Newbern, Mexico
6 pgs, Josephine, Magdalena Bay
50 pgs, Colima, Panama

TALLOW
8322 lbs, Newbern, Mexico
1271 lbs, Josephine, Magdalena Bay

TAR
5 bbls, J D Spreckels, Honolulu
7 bbls, Colima, Panama

TURPENTINE
8 cs, Newbern, Mexico
1 pg, Josephine, Magdalena Bay

WHITE LEAD
800 lbs, Newbern, Mexico

Baltimore Exports.

For week ending March 29.

BARK
16 bgs, Baltimore, Liverpool
16 bgs, China, Glasgow
769 bgs, Chateau Leoville, Havre

BARK EXTRACT
16 bbls, Hesperia, Glasgow

GREASE
282460 lbs, Chateau Leoville, Havre

OIL CAKE
660 sks, San Juan, Bristol
11315 sks, Hesperia, Belfast

OLEO STOCK
64000 lbs, Chateau Leoville, Havre

ROSIN
00 bbls, Hesperia, Belfast

STEARINE
115900 lbs, Chateau Leoville, Havre

Departure of Steamers.

FROM NEW YORK.

Steamers.	Sails.	Destinatio
Waesland	Apr 4	Antwerp
Republic	Apr 4	Liverpool
Trave	Apr 4	Bremen
Italy	Apr 4	Liverpool
State of Nebraska	Apr 5	Glasgow
Moravia	Apr 5	Hamburg
Zaandam	Apr 7	Amsterdam
Aurania	Apr 7	Liverpool
City of Berlin	Apr 7	Liverpool
Elbe	Apr 7	Bremen
La Champagne	Apr 7	Havre
Devonia	Apr 7	Glasgow
Geiser	Apr 7	Copenhagen
Wisconsin	Apr 10	Liverpool
Britannic	Apr 11	Liverpool
Gallia	Apr 11	Liverpool
Ems	Apr 11	Bremen
Belgenland	Apr 11	Antwerp
State of Indiana	Apr 12	Glasgow
Suevia	Apr 12	Hamburg
Circassia	Apr 14	Glasgow
City of Chester	Apr 14	Liverpool
La Normandie	Apr 14	Havre
Etruria	Apr 14	Liverpool
Werra	Apr 14	Bremen
Schiedam	Apr 14	Amsterdam
Hekla	Apr 14	Copenhagen
Nevada	Apr 17	Liverpool
City of Rome	Apr 18	Liverpool
Egypt	Apr 18	Liverpool
Celtic	Apr 18	Liverpool
Rhyniand	Apr 18	Antwerp
Aller	Apr 18	Bremen
Rugia	Apr 19	Hamburg
Hermann	Apr 19	Antwerp
City of Chicago	Apr 21	Liverpool
Furnessia	Apr 21	Glasgow
Elder	Apr 21	Bremen
La Bourgogne	Apr 21	Havre
Leerdam	Apr 21	Rotterdam
Servia	Apr 21	Liverpool

FROM BOSTON.

Pavonia	Apr 7	Liverpool
Austrian	Apr 7	Glasgow
Michigan	Apr 10	Liverpool
Samaria	Apr 14	Liverpool
Carthagenian	Apr 15	Glasgow
Roman	Apr 17	Liverpool
Cephalonia	Apr 21	Liverpool

FROM PHILADELPHIA.

Indiana	Apr 4	Liverpool
British Princess	Apr 11	Liverpool
Vaderland	Apr 11	Antwerp
Grecian	Apr 13	Glasgow
Lord Gough	Apr 18	Liverpool

FROM BALTIMORE.

Rhein	Apr 4	Bremen
Sarnia	Apr 10	Liverpool
Hermann	Apr 11	Bremen
Panama	abt Apr 15	Havre
Cynthia	Apr 18	Glasgow
Donau	Apr 18	Bremen

FROM SAN FRANCISCO.

Mariposa	Apr 5	Honolulu, etc
City of Rio Janeiro	Apr 12	Yokohama, etc
Gaelic	Apr 21	Yokohama, etc
City of New York	May 1	Yokohama, etc
Zealandia	May 3	Honolulu, etc
Belgic	May 12	Yokohama, etc
City of Peking	May 23	Yokohama, etc

Baltimore Imports.

Comparative statement of the Imports at the port of Baltimore commencing January 1st 1888 and 1887.

Articles:	This week.	Previously.	Same time '87
Agricultural salt, tons.	100	2512	3984
Cement, casks	....	8257	2560
Brims'ne & Sulph'r tns	....	4368	3850
Guano, tons	....	590	2299
Nitrate of Soda, bgs	....	1080	18895
Spirits Turp, bbls	115	2758	3556
Rosin, bbls	2861	30454	37022
Tar, bbls	41	1869	1725

Baltimore Exports.

Principal articles exported from Baltimore to foreign countries since 1st of January, 1888, and compared with same time 1887.

	This week	Previously.	Same time '87
Bark Quercitron bgs	206	3507	10858
Spirits Turpentine, gals.	....	....	2000
Rosin, bbls	....	24708	6582
Oil Cake, pkgs	108	42399	64539
Petroleum, gls	....	935514	1894689
Tallow, lbs	64000	3586274	2525210

TOTAL PACKAGES AND VALUES OF IMPORTS.

As returned by the Custom House for the week ending March 30, 1888:—

	Quantity	Value
Glass, plate	129	$10015
Glass, window	420	2191
Looking glass plate	198	34945
Arsenic	266	2300
Acid, boracic	6	574
Acid, arsenic	23	593
Acid, benzoic	2	101
Acid, carbolic	98	3446
Acid, citric	391	4662
Acid, all other	54	3613
Aniline colors	266	13941
Ammonia, carbonate	50	1711
Ammonia, muriate of	17	680
Argols	727	105864
Alum	166	953
Albumen	25	1025
Asphalt		544
Balsam copaiba	90	11460
Balsam tolu	14	316
Bark, Peruvian	8	629
Bark, other	106	5120
Brimstone		23895
Bronze powder	....	7976
Borax	1210	6860
Buchu leaves	12	150
Butter, cocoa	6	324
Chalk		1395
Chemical salts	1	23
Cinchonidia	40	900
Cobalt	2	584
Colocynth	7	323
Cudbear	19	1345
Cuttlefish bone	50	528
Dyewood extract	51	641
Flowers, insect	4	360
Flowers, saffron	1	30
Fullers earth	1212	1029
Gelatine	70	6964
Glycerine	151	14540
Gum arabic	46	6257
Gum asafœtida	1	23
Gum aloes	23	639
Gum chicle	756	27189
Gum damar	30	236
Gum, licorice	60	2072
Gum olibanum	5	89
Indigo sucstitute	10	885
Gum, other	25	1456
Glue	59	3233
Insect powder	54	2172
Indigo	247	49241
Indigo, extract of	10	569
Juniper berries	225	1 37
Laurel leaves	38	654
Locust beans	100	174
Manna	47	1539
Magnesia	1	217
Manuring salt		12902
Morphine	2	283
Nutgalls	125	3576
Orchilla liquor	25	1236
Oil, aniline	24	4330
Oil, aniseed	25	2270
Oil, bergamot	55	3190
Oil, caraway	5	297
Oil, cassia	45	2068
Oil, cod	30	441
Oil, juniper	5	634
Oil, linseed	364	830
Oil, lemon	351	11188
Oil, neroli	1	91
Oil, orange	16	307
Oil, olive	1910	16059
Oil, palm	16	999
Oil, rapeseed	120	2008
Oil, rosemary	5	201
Oil, sandalwood	4	425
Oil, other essential	3	174
Oil, all other	8	1023
Opium	14	5564
Orange peel	23	202
Paints, unspecified	....	6533
Paints, chrome yellow	19	1103
Paints, drop black	2	70
Paints, orange mineral	3	160
Paints, rose pink	46	806
Paints, umber	61	579
Paints, white lead	2	70
Pitch	22	329
Potash, chlorate	630	8286
Potash, carbonate	50	1208
Potash, caustic	55	350
Potash, prussiate	20	1296
Plumbago	20	1578
Potato flour	50	244
Quinine	112	15606
Rose leaves	8	193
Root, arrow	13	185
Roots, jalap	53	1090
Root, sarsaparilla	88	1353
Roots, all other	35	159
Senna	131	1911
Soda ash	2063	34190
Soda, carbonate	280	1280
Soda, caustic	991	12338
Soda, nitrate	7504	31456
Soda, sal	50	317
Sponges	417	5492
Sumac	50	336
Sumac, extract of	25	495
Talc	200	204
Tonka beans	1	70
Vanilla beans	2	446
Varnish	3	70
Venice turpentine	70	589
Other drugs	....	17060
Dutch metal	19	4749
Cloves	100	2244
Ginger	73	509
Mustard	173	4663
Pepper	2	39
Pimento	39	199
Empty barrels	....	66377
Fustic	....	27
Logwood, M lbs	2597	25750
Brushes	....	10313
Clay	....	6176
Carbon	....	654
Corks	....	1043
Cocoa, preparations of	51	1837
Emery		1389
Guano	....	2087
Hops	25	1165
Musk	3	4281
Plaster	....	613
Portland cement	18434	17150
Perfumery	43	4389
Seed, annatto	399	2148
Seed, anise	66	1068
Seed, canary	1003	6183
Seed, cardamom	4	130
Seed, clover	57	927
Seed, coriander	200	1011
Seed, mustard	50	519
Linseed	663	3539
Soap	133	3974
Soap, castile	935	3255
Soap stock	200	6397
Stone, pumice	....	1171
Wax		2291

GOODS ON THE WAY TO THE UNITED STATES BY SAIL.

Auckland

TO NEW YORK

Rebecca Crowell, 454 tons kauri gum
Mary A Greenwood, about 487 tons kauri gum

Calcutta

TO NEW YORK

John W Marr, 150 cs shellac
Anglo, India, 1462 bgs saltpeter, 1134 bgs cutch
Kelat, 7000 bgs linseed, 55 cs indigo
Glenericht, 1153 bgs saltpeter, 40 bgs cutch, 3185 bgs linseed, 100 cs shellac, 89 cs indigo
Blair Athole, 545 bgs saltpeter, 2623 bgs cutch, 302 cs indigo, 2000 pkts turmeric
Palgrave, 27735 bgs linseed, 100 cs shellac, 169 cs indigo
Farragut, 1477 bgs cutch, 100 cs shellac, 353 cs indigo, 200 cs buttonlac, 100 cs castor oil, 3000 pkts turmeric, 46 bgs nux vomica
Battle Abbey, 3472 bgs linseed
Evesham Abbey, 1250 bgs cutch, 14640 bgs linseed, 64 cs indigo
Fairholme, 671 bgs cutch, 4804 bgs cutch
Walter H Wilson, 816 bgs cutch, 10842 bgs linseed
Earl of Aberdeen, 1562 bgs cutch, 13760 bgs linseed

Girgenti

TO BALTIMORE

Fratelli Doge, 900 tons brimstone
Stefano Repetto, 535 tons brimstone

TO WILMINGTON N C

Vittoria, 580 tons brimstone

Leghorn

TO PHILADELPHIA

Giacamo Mortola, 1100 bxs white soap

Licata

TO CHARLESTON

Sirena, 640 tons seconds brimstone

TO NEW YORK

Fortune, 330 tons thirds brimstone

Smyrna

TO NEW YORK

Alice, 4514 bls licorice root, 79 tons emery stone

West Coast South America

TO BOSTON

Conquest, 5000 bgs nitrate soda

TO HAMPTON ROADS

Maggie Dart, 5000 bgs nitrate soda
Iceberg, 10000 bgs nitrate soda

TO NEW YORK

Linnet, 10000 bgs nitrate soda
Amanda, 10000 bgs nitrate soda
Countess of Roth, 7000 bgs nitrate soda
Willard Mudget, 9000 bgs nitrate sod
Hampshire, 12000 bgs nitrate soda
Trinidad, 6500 bgs nitrate soda
Empire, 10000 bgs nitrate soda
Zulu, 6000 bgs nitrate soda

TO PHILADELPHIA

Evie J Ray, 10000 bgs nitrate of soda

RECORD OF VESSELS.

Port & Name.	Sailed	Last Reported
Auckland.		
R Crowell	Feb 10	
M A Greenw'd	March 3	
Calcutta.		
J W Marr	Nov 24	
Anglo India	Dec 10	
Kelat	Jan 2	
Glenericht	Jan 4	
Blair Athole	Jan 9	
Palgrave	Jan 6	
Farragut	Jan 17	
Battle Abbey	Jan 23	
E Abbey	Feb 8	
Fairholme	Feb 8	
W H Wilson	Feb 14	
E of Aberdeen	Feb 15	
Girgenti.		
F Doge	Jan 21	
Vittoria	Jan 11	Tarifa, Feb 3
S Repetto	Jan 25	
Leghorn.		
G Mortola	Jan 13	
Licata.		
Sirena	Jan 20	Cagliari, Feb 3
Fortune	Jan 20	
Smyrna.		
Alice	Jan 20	
W. C. South America		
Evie J Ray	Oct 13	Talcahuano, Nov 26
Empire		Loading
M Dart	Dec	
Culu	Dec 8	
Conquest		Loading
Iceberg		Loading
Linnet		Loading
Amanda	Dec	
Countess Roth		Loading
W Mudgett		Loading
Hampshire		Loading
Trinidad		Loading

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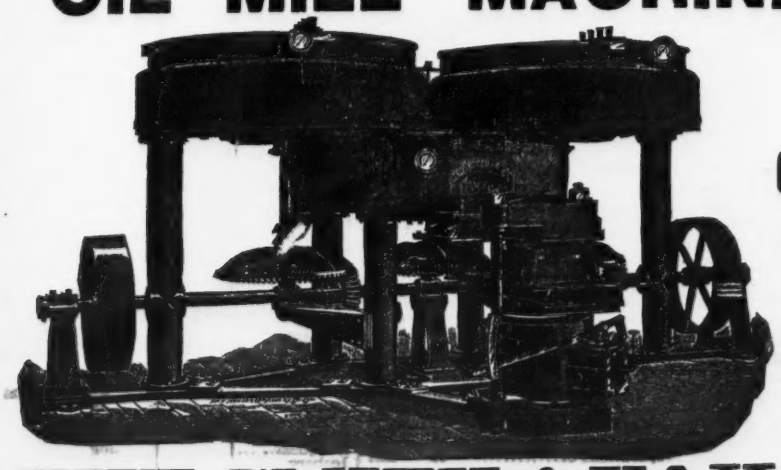

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rosemary and lemon, and the hydrocarbons of oil of dill and oil of cajeput, easily yield the above mentioned crystals [of terpin hydrate]; other oils, such as that of elemi and carvene, with greater difficulty. But even in such cases it may be obtained by placing only a thin layer of the oil upon the diluted acid.

[From a subsequent chapter we insert here the method of preparing terpin hydrate: On mixing together in a capacious flask at the ordinary indoor temperature 1 part of nitric acid (sp. gr. 1·200), 2 parts of alcohol (sp. gr. 0·830), 4 of water, and 8 of oil of turpentine, it requires a period of one to two years to convert about 18 per cent. of the oil of turpentine into terpin hydrate in form of large, well developed, and but slightly colored crystals belonging to the monoclinic system. The greater the surface of contact between the oil and the lower aqueous layer, the more rapid is the production of terpin. On pouring a mixture of 1 part of alcohol, 1 of nitric acid, and 4 of oil of turpentine into flat dishes, it requires only a few days to obtain 20 per cent of terpin hydrate from the oil. It is of advantage afterward to partially neutralize the acid. Strong light, and also heat, retard the formation of the substance.]

Some oils, of the same percentage composition as the terpenes correspond to the formula $C_{15}H_{24}$, as is shown by the vapor density. The oils of this class also possess a higher specific gravity, a higher boiling point, a lesser degree of miscibility with alcohol, and yield other oxidation products.

Some oils, as those of Cicuta virosa L., Thymus vulgaris L. Cuminum Cyminum L. Monardo punctata L., contain also cymene (cymol) which is identical with the same body (cymene) artificially prepared from the oil having the composition $C_{10}H_{14}$. This cymene does not form crystals either with hydrochloric acid or with water, but with fuming sulphuric acid it yields the crystallizable, deliquescent cymenesulphonic acid, $C_{10}H_{13}SO_2OH$.

Besides hydrocarbons of the composition C_8H_7 and C_8H_8, oil of rose contains a crystallizable hydrocarbon belonging to the class of paraffins [or saturatad hydrocarbons].

Small quantities of such bodies have also been fonnd in the ethereal oils of the orange family and in the fruits of Heracleum and Pastinaca. The turpentines of the Californian Abies Sabiniana Douglas and Abies Jeffreyi yield a considerable quantity of a heptane, C_7H_{16}, of the spec. grav. 0·694. This body, named abietene, boils at 98·4 deg. C., has a strong odor of orange, and turns the ray of polarized light to the right.

Many oils are mixtures of hydrocarbons (C_8H_8) with oxygenated oils. The name of the former are usually made to terminate in-ene [in German in -en], and those of the latter in -ol. For instance, oil of caraway consists mainly of

carvene, $C_{10}H_{16}$, and
carvol, $C_{10}H_{14}O$;

oil of thymo, of thymene and thymol. Hence the body which has been called cymol should be rather named cymene.

Only a few oils are aldehydes, in a chemical sense; for instance, oil of bitter almond, $C_6H_5.CHO$. The chief constituents of oil of cinnamon, cumin and Spiraea likewise belong to this class, which unites with the bisulphites of alkalies to crystalline compounds. Some other ethereal oils, as that of peppermint, ylang-ylang and citronella, also contain small quantities of aldehydes.

Oil of rue also contains a body yielding a crystalline compound with bisulphites, but this belongs in the class of the ketones. * *

Alcohols—in a chemical sense, viz., methyl and ethyl alcohol—have been met with in the ethereal oils of many umbelliferous fruits, * * * and in some others, compound ethers (esters) are found. For instance, salicylate of methyl in the oil of Gaultheria procumbens (etc.). The oils of the fruits of Heracleum giganteum and H. Sphondylium L. contain a whole series of compound ethers of fatty acids with the hexyl and octyl radicals.

Among the constituents of the oils of Lepidium sativum L. and Tropæolum majus L., the combination C_8H_7N has been recognized as the nitrile of phenylacetic acid ($C_6H_5.CH_2.COOH$). When boiled with alcoholic potassa, this eliminates ammonia, and hydrochloric acid precipitates phenylacetic acid from the solution. * *

Isosulphocyanates are represented among the ethereal oils by fractions contained in oil of mustard and Cochlearia, which contain a large percentage of sulphur (like garlic). * * *

Compounds belonging to the class of phenols occur as chief constituents in the oils of anise staranise, fennel, estragon, cloves and thyme, and small quantities also in those of calamus and sassafras. At least, fractional distillation is able to separate from these certain portions which are colored violet or green by alcoholic ferric chloride. Very curious is the case with which carvol may be converted into a phenol.

Under the influence of air and light, and also that of heat during distillation, ethereal oils suffer certain changes which are comprised under the name resinification. They acquire, thereby, a viscid consistence, and finally become quite stiff and almost solid. But the changes occurring during this process have not yet been fully made out. None of the resins thus produced appears to occur in nature. * * *

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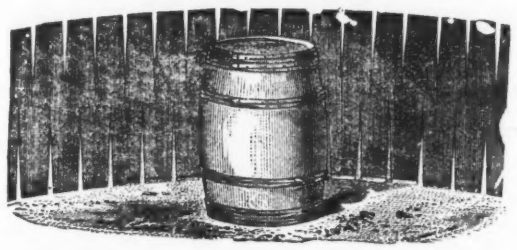

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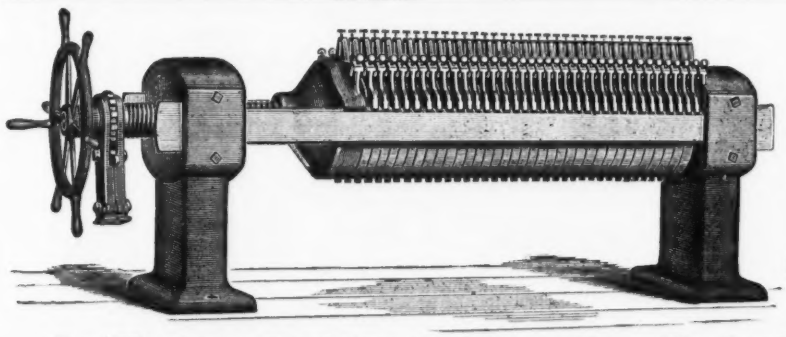

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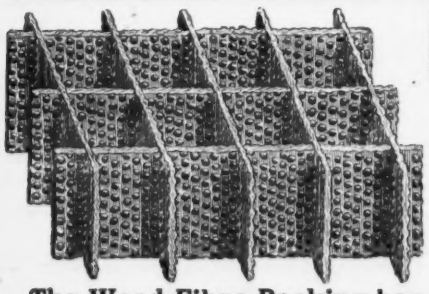

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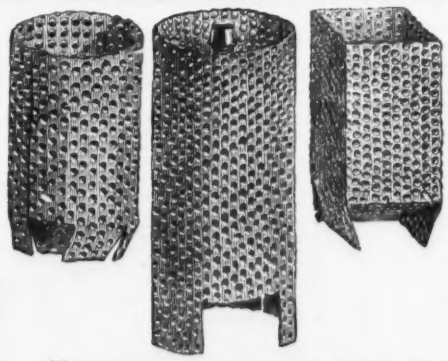
BOSTON OFFICE: 99 Milk Street.
CINCINNATI OFFICE: 165 Walnut Ave.



The special attention of Druggists and all packers of bottled goods and fragile articles is called to this packing.

It is neat, clean, compact, and saves from 30 to 50 per cent on cost of freight.

Sample cases fitted up without expense to owners.

DRUG MARKET.

Note—*Our prices are for large lots except when otherwise specified, and buyers of small quantities must expect to pay an advance on these figures.*

The prices current will be found on pages 49 and 50.

TUESDAY EVENING, April 3, 1888.

A slight increase in the volume of trade is noticed as the result of the past few days of pleasant weather, and dealers are hopeful of a continuance of the demand with a gradual improvement as the season advances. Trading, as usual, has been confined almost exclusively to dealing in small quantities to meet the current necessities of consumption, and where there is any disposition to operate on a larger scale, it is generally checked by limited offerings of stock and high prices. The depression in opium and quinine continues and seems to have deepened since our last. Reports from the other side indicate a not very encouraging conditions of affairs. Messrs. Samuel Lambert & Co. say in their report of the 23d ult. that the past fortnight had been the dullest on record, and they think it was due to the weather, for after the frost and snow disappeared a generally better feeling was developed. At the London sale on the 22d inst. there were 17 catalogues, which contained nearly all second hand goods. The tone was better than expected, certainly better than the prevalent feeling outside. The changes were unimportant. Quinine was especially neglected until the 22d when a firm tone sprang up, as the Dutch auctions came higher. Spices were in better demand the recent resales of high priced speculative stuff having brought out the buyers. Cod liver oil engaged attention by the low prices ruling, which were the lowest on record, but in another week, said our correspondent, it will be all over. Citric acid has felt the depression lately prevailing. The bottom fell out of the London quicksilver market on the 20th ult., declining to £7 17s 6d in outside hands, Rothschild's price being reduced to £8. In the New York market the principal changes of the past week have been as follows:

ADVANCED.	DECLINED.
Golden seal	Opium
Ipecac	Morphine
Singapore pepper	Citric acid
	Ergot
	Mercurials
	Salicine
	Cubeb berries
	Oil wintergreen

Opium.

The downward tendency of the opium market becomes more marked from the combined effects of indifference on the part of the general drug trade and the persistent efforts of the bears. It is reported that single cases can be bought at $3 15 and that if an offer of $3 were made for a larger quantity up to 10 cases plenty of takers can be found. There is little or no disposition among buyers to take more than their necessities dictate and the result is that we have to chronicle another week of dullness in this market. While the tendency here is toward a lower basis advices from Smyrna report a better feeling and a further slight appreciation there is indicated. London seems to be in about the same condition as our own market. A report from there says that the drug is very dull and greatly neglected. The same report gives the stock of all kinds in the London public warehouses on March 1st as 1,586 chests, against 2,041 at the same time last year, but adds that it is known that the London stock is more than this. The short crop of last year appears to have affected the stock there but little. The jobbing demand for opium in our market is moderate, and lots as wanted are said to be selling now at $3 25@3 30. Powdered opium is lower, some manufacturers quoting $4 75 while outside lots are said to be obtainable at less, though we hear of no offers.

Morphine is lower. The principal manufacturers on Saturday reduced their quotations to $2 55 in bulk, $2 60 in ounces and $2 85 in eighths. Other brands were reduced proportionately, Scotch (Smith's) being now quoted at $2 35 in bulk, $2 40 in ozs and $2 55 in eighths.

Quinine.

The market for quinine is uninteresting and prices are tending in buyers' favor. The nominal quotations for the favorite foreign brands in second hands are 42@43c, but it is intimated that some holders would be willing to shade the inside figure ¼c on an order for any considerable quantity. There is no disposition to buy in a large way but the jobbing demand shows a slight improvement, and in this way a considerable quantity is moving. The result of the late bark sale had a depressing effect in London, and cable advices from that market report a weaker feeling.

The receipts of quinine for the week have been 27,750 ozs entered at the Custom House.

Receipts of quinine for the week	27,750
Since Jan. 1	393,012
Corresponding period last year	661,326

Miscellaneous.

Alcohol finds an improved outlet at the reduced prices and trade is reported as active. We quote $2 12@3 15, as to quantity.

Borax is firmer, with the tendency upward.

SALOL.

Dr. F. VON HEYDEN'S Successor at Radebeul-Dresden, Manufacturers and Patentees for Germany and United States of America.

W. H. Schieffelin & Co., New York,

Sole Agents for the United States and Canada for this Factory.

Registered Trade Mark, "Salol."

This remedy, which we were the first to extensively introduce to the medical profession of the United States, is a compound of Phenol and Salicylic Acid.

Salol has attracted very great attention by reason of its value in the treatment of Rheumatism and Rheumatic affections, as well as other diseases. It possesses all the advantages of Salicylic Acid and Salicylate Soda, while not causing any of their objectionable effects.

To those who desire fuller information concerning the history, properties and uses of Salol, we would state that we have published "A Treatise on Salol," in which is incorporated the notes of F. E. GEORGI, M.D., Physician to the City Hospital, Goerlitz (Silesia). This Treatise will be mailed to anyone on application.

This valuable remedy is best administered in the pilular form. We prepare our Soluble Pills of Salol in strengths of 2½ grs. and 5 grs. to each pill. We quote:

SALOL.

In 1 lb. bottles	$4.50 per lb.
In ½ lb. "	4.60 "
In ¼ lb. "	4.75 "
In lots of 5 lbs. in 1 lb. bottles	4.25 "
In lots of 5 lbs. in ½ lb. bottles	4.35 "
In lots of 5 lbs in ¼ lb. bottles	4.50 "
Or assorted lots of 5 lbs. may be made up at best price.	
In 1 ounce bottles	.35 per oz.
In 1 oz. bottles in lots of 25 oz.	.31 "

SALOL PILLS.

	Bottles of 100 Pills.	Bottles of 500 Pills.
W. H. S. & Co.'s Soluble Salol Pills, 2½ grs.	$ .80	$3 80
" " " 5 "	1.40	6.50

Pills subject to usual discount.

Soliciting your orders, we are, yours truly,

W. H. Schieffelin & Co.,

170 & 172 William St., NEW YORK

NEW YORK

Quinine and Chemical Works

LIMITED

Office. 114 William St., New York.

MANUFACTURERS OF

QUININE, ALOIN

MORPHINE

SANTONINE. COCAINE

NORWEGIAN COD LIVER OIL.

We desire to call attention to our "Maltese Cross" brand Norwegian Cod Liver Oil specially adapted for bottling, as being without exception the finest in quality and appearance, imported into this market. To meet competition we also offer our "H" brand Oil at the market quotation. This is a pure pale oil.

McKESSON & ROBBINS.

ROSENGARTEN & SONS, 12 Gold Street New York.

MANUFACTURING CHEMISTS, Philadelphia.

Sulphate of Quinine,	Bromide of Potassium	Hypophosphites,
Muriate of Quinine,	Nitrate of Silver,	Subnitrate of Bismuth,
Citrate of Iron and Quinine,	Iodide of Potassium,	Spirits of Nitre,
Sulphate of Cinchonine,	Sulphate of Morphine,	C. P. Acids,
Sulphate of Cinchonidine,	Acetate of Morphine,	Tannin,
Sulphate of Quinidine,	Muriate of Morphine,	Resublimed Iodine.
Bromide of Ammonium,	Nitrate of Ammonia,	Ether.

C. F BOEHRINGER & SOEHNE,

MANUFACTURING CHEMISTS.

Mannheim, Germany, and 49 Cedar Street, New York

QUININE.

Quinidia,	Codeine,	Resin Jalap,
Cinchonidia,	Digitalin,	Salicin,
Cinchonia,	Ergotin,	Spartein,
Chinoidine,	Koussein,	Strophanthin,
Acetanilid,	Morphine,	Strophanthi Tinct.
Aconitia,	Papain,	Terpinhydrat,
Arbutin,	Pelletierin,	Terpinol,
Atropia,	Pilocarpin,	Urethan,
Caffein,	Physostigmin,	Veratrin,
Cocaine,		

ANTIFEBRIN.

(REGISTERED.)

E. MERCK, Manufacturing Chemist,

SOLE LICENSEE FOR THE U. S.

No 73 William Street, NEW YORK.

N. B. Antifebrin is manufactured by KALLE & CO., and any package not bearing their label is a counterfeit.

SOZIO & ANDRIOLI,

Grasse, France.

MANUFACTURERS OF

Pomades and Materials for Perfumery

DISTILLERS OF

ESSENTIAL OILS,

ROSE AND ORANCE FLOWER WATERS.

SOLE AGENTS IN THE UNITED STATES AND CANADA.

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George A. McLaren & Co.,

IMPORTERS' & MANUFACTURERS' AGENTS,

45 St. Sacrament Street, Montreal.

Home and Foreign Correspondence solicited with Manufacturers of Drugs, Chemicals, Fancy Goods, etc.

Works at Feuerbach established by FRIDR. JOBST —1806.— | Branch house at Milan "SUCCESSORI DI FRIDR. JOBST." | Works at Sachsenhausen established by C. ZIMMER —1837.—

Vereinigte Fabriken chemisch-pharmaceutischer Producte

Feuerbach-Stuttgart & Frankfurt a. M.

Frankfort °/M. **ZIMMER & CO.** GERMANY.

Offer to the trade their strictly prime

QUININE

on spot and for future delivery, in quantities to suit at lowest market quotations.

Represented by RICHARDSON DRUG CO., St. Louis, Mo.

JOHNSON & JOHNSON, 23 Cedar St., New York.

KNOWLES BROTHERS,

Importers and Refiners of

SALTPETER

62 William Street, NEW YORK

RICHARD C. REMMEY Agt.

Philadelphia Chemical Stoneware Manufactory

1100 East Cumberland St., Phila., Pa.

Manufacturer of all kinds of Chemical Stoneware for Manufacturing Chemists Also Chemical Bricks for Glover Tower.

Flower and Garden Seed

Free by Mail. Send for Catalogue

F. E. McALLISTER,

SEED MERCHANT

22 DEY STREET, NEW YORK.

Established 1836.

Croton Laboratory.

OFFICE, 26 CEDAR ST., N. Y.

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IMPORTER AND REFINER OF

Crude Saltpetre and Nitrate of Soda.

Best qualities always on hand at lowest cash price.

HELLER, HIRSH & CO

Commission Merchants and Brokers

Office, 164 Front St. New York

Acid Phosphate, Kainit, Muriate of Potash Crude and Ground Mineral Phosphates.

SPECIALTIES:

Blood and Egg Albumen, Starch, Boneblack, Cottonseed Meal, Dried Blood and other Fertilising Materials.

Bermuda Ochre.

Single Washed, Double Washed, Extra Floated

Fully equal to ROCHELLE.

BERMUDA OCHRE — TRADE MARK — G & C

CRIDLEY & CO., Sole Agents of the BERMUDA OCHRE CO., 87 Maiden Lane, New York

Druggists' Pure Spices

E. W. ROPES,

New York City

Samples and Prices furnished cheerfully.

JOHN J. THOMSEN,

51 W. Balto. and 66 & 68 German Sts.

BALTIMORE, MD.,

IMPORTER AND EXPORTER OF

DRUGS

AMERICAN INDIGENOUS

OILS, ROOTS, BARKS, HERBS

SPECIALTY.

The jobbing demand is brisk and is supplied at 8@8¼c for city refined, 7⅛@8c for California and 7⅛@7¾c for concentrated. The manufacturers are watching closely the progress of tariff revision at Washington, and every influence is being brought to bear to prevent a reduction in the duty on borax.

Citric acid is lower, both domestic and imported being now procurable at 49@50c as to quantity. The demand is only moderate.

Cod liver oil continues easy, Norwegian selling in a jobbing way at $24@30 per barrel as to brand, while offers to sell for future delivery are made from the other side at still lower prices. These figures do not seem to influence the demand, and we only hear of an ordinary business. Newfoundland is quiet and unchanged.

Colocynth apples are firm and offered sparingly, owing to the small supply. Spanish are held at 28@30c and Trieste at 50c.

Carbolic acid is hard to obtain in any quantity on the spot and for future delivery the market is very firm owing to an advance abroad. We quote 33@35c in bulk and 39@41c in bottles as to brand for lots to arrive.

Ergot is easier both here and abroad, owing to offerings of small lots from unexpected sources. Russian is wanted at 38@40c, though we heard of a sale of 5000 lbs at a shade above 40c. For Trieste 42@45c will now be accepted.

Insect powder remains firm and is moving freely into consuming channels, though principally on contract deliveries.

Lycopodium is firm, with 41@42c quoted for a special brand, though 40c will still buy outside lots. The demand is quite active.

Nitrate of strontia is jobbing at 10c though some holders would accept 9¼c in a large way. The demand is active.

Salicene is lower, some holders now offering at $3 75. There is very little selling, however.

Quicksilver is unsettled, and the tendency seems to be lower. In a jobbing way 61@63c is quoted, but it is understood that a large order would be filled at less. Buyers are holding off, and little business has transpired since our last.

Balsams.

The position of balsam copaiba is maintained owing to the small available supply in all markets, and the good demand. Canada balsam fir is jobbing slowly at $3 25 but is in small supply. Oregon is dull and neglected and the same may be said of Peru balsam. For balsam tolu there is a moderate jobbing demand which is supplied at 30@32c. A small lot in first hands is reported sold at about 28c.

Berries.

The market for cubeb berries has developed an easier tendency in sympathy with weaker reports from abroad. The demand, however, shows no improvement, and spot supplies are still limited. We quote XX at $1 50 and ordinary at $1 25, though both figures are said to have been shaded.

Essential Oils.

Anise oil remains easy at $1 55@1 60 and attracts little attention. Cassia is steady but quiet. Native citronella oil is beginning to attract attention again and we note sales of 3,000 lbs at about the quotations. Peppermint is said to be depressed by speculative holders with a view to influencing the farmers to plant a smaller acreage. It is also feeling the effect of the competition with the Japanese oil, which is beginning to play an important part in the market. Quotations at present are entirely nominal. Advices from London say that peppermint oil in cases is going from bad to worse there. Sassafras oil is a trifle easier at 47@51c. Sales of 20 cans are reported on private terms. Wintergreen has declined to $1 70@1 75 with sales of 400 lbs at these figures.

Flowers.

There is little of fresh interest to report in this market. Roman chamomiles are firmer, but not quotably higher at 32@34c. German are also firm at 22@24c The demand is improving. Valencia saffron is very firm at $14@14 50 for prime. American is dull and nominal.

Herbs and Leaves

Apart from a moderate jobbing movement we find nothing doing in this department. Prices are maintained and we have no changes to record.

Roots.

Goldenseal root has advanced to 65c with sales of 300 lbs, which takes about all there is here. Hellebore is in active request, the consuming season having arrived. Powdered has sold to the extent of 20 bbls at 9½c. An imitation of powdered hellebore is said to be offering in this market at 8½c. The whole root is quotable at 8¾@9c. Cables from London reporting sales of ipecac there at the equivalent of $1 90 started an inquiry for supplies here shortly after our last. Only a small lot could be found and this sold at $1 80@1 85, after which the market advanced to $1 90@2 as to holder with small sales. Jamaica ginger is firm at the recent advance under a good demand.

In the general list there is not much doing outside of the usual small sales to supply current needs. Of sifted anise another sale of 1,000 lbs at 10c is reported and a sale of 500 bags Smyrna canary, from the Protetore at 2⅝c constitutes the only notable business. Guinea grains remains firm and are moving quite freely into consumption considering the small supplies.

Shellac.

An improvement in the hat trade has aroused the hopes of dealers that a revival of the demand for shellac may soon be experienced. In fact there has been rather more inquiry for round lots during the past few days, but it has not resulted in much business, buyers and sellers seeming to be apart in their views. We note sales of 150 cases S S and Octagon B on private terms, and a few small transactions within the range, including 50 cases No. 1 Button. The arrivals have been heavy during the past few days, but it has not sensibly affected the market since the stock to come during the next sixty days is believed to be light. Cable advices report that the March shipments from Calcutta show a great decrease compared with those of the previous month. On the whole, dealers are disposed to take a more hopeful view of the future, and there is consequently less pressure to sell.

Spices.

The jobbing demand for spices is reported to be good but there is very little movement in invoice lots. Mace is slightly easier while Singapore pepper displays a firmer tone and is quoted at higher prices.

Mr. N. K. Fairbank was in the city yesterday.

Mr. S. W. Knowles has returned from his trip to Florida, and looks as if he enjoyed his month's vacation.

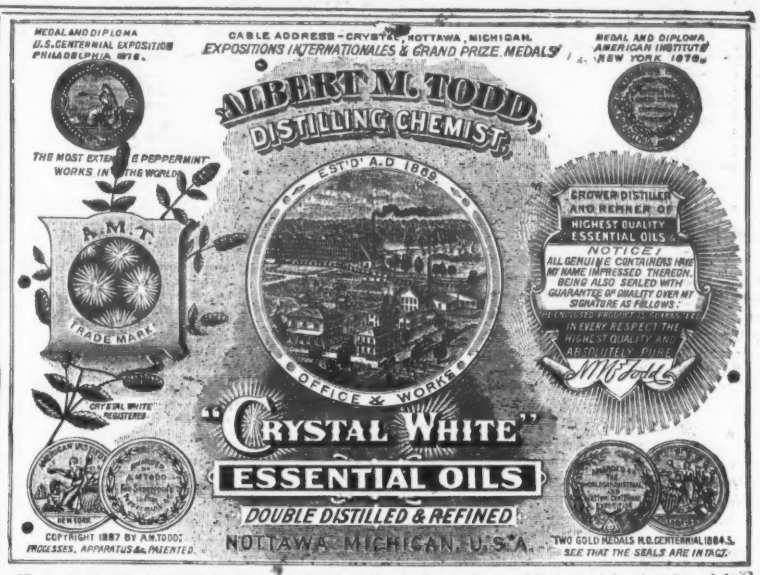
The Useful Postal Package.

Experience has demonstrated that a mailing package to be satisfactory, must conform to the regulations of the post office department; must be light, to reduce the postage, and must be cheap to warrant its use. These necessary features are fully covered in the improved package manufactured by the Postal Package Company of Baltimore, It is declared to be the neatest, strongest and cheapest packages of the kind ever invented. It is well named the "perfect postal package," and meets with the approval of the post office department. An illustrated price list will be ready in a few days and the firm will be pleased to send copies on application. The packages have been tried by the various trades and found to be just what is wanted for mailing liquids and samples.

A Compliment to the Carter White Lead Co.

The following is an extract from the report of U. S. Consul General Raine of Germany, dated at Hamburg and addressed to the Carter White Lead Company:

"In reply to your favor of yesterday I herewith advise you that of white lead coming from the United States, some samples excepted, no larger importation is known to me. The samples of white lead from the United States which I have seen are not as white and fine as the articles furnished by German manufacturers; but the principal objection to samples from the United States appears to be that they do not equal the Ger-


MEDAL AND DIPLOMA U.S. CENTENNIAL EXPOSITION PHILADELPHIA 1876.
CABLE ADDRESS - CRYSTAL, OTTAWA, MICHIGAN.
EXPOSITIONS INTERNATIONALES & GRAND PRIZE MEDALS
MEDAL AND DIPLOMA AMERICAN INSTITUTE NEW YORK 1879.
ALBERT M. TODD,
DISTILLING CHEMIST,
THE MOST EXTENSIVE PEPPERMINT WORKS IN THE WORLD.
ESTD A.D. 1869
GROWER DISTILLER AND REFINER OF HIGHEST QUALITY ESSENTIAL OILS
NOTICE!
ALL GENUINE CONTAINERS HAVE MY NAME IMPRESSED THEREON, BEING ALSO SEALED WITH GUARANTEE OF QUALITY OVER MY SIGNATURE AS FOLLOWS:
IN EVERY RESPECT THE HIGHEST QUALITY AND ABSOLUTELY PURE
A.M.T.
TRADE MARK
OFFICE & WORKS
"CRYSTAL WHITE"
ESSENTIAL OILS
DOUBLE DISTILLED & REFINED
NEW YORK
COPYRIGHT 1887 BY A.M.TODD.
PROCESSES, APPARATUS &c. PATENTED.
OTTAWA MICHIGAN U.S.A.
TWO GOLD MEDALS H.O. CENTENNIAL 1884 U.S.
SEE THAT THE SEALS ARE INTACT.

Now obtainable through leading wholesalers throughout the world at special prices in original bottles of 500 grams, 1 lb., 8 oz. and 4 oz., and 20 lb. tins, sealed and guaranteed as specified, including

Peppermint, Spearmint, Sassafras, Wormwood, Camphor, Tansy, Erigeron, Pipmenthol, (Crystals and Inhalant.)

The manufacturer positively guarantees the "Crystal White" not only ABSOLUTELY PURE and IN EVERY RESPECT THE HIGHEST QUALITY MANUFACTURED, but also the MOST ECONOMICAL IN USE less being required, while the HIGHEST POSSIBLE RESULTS are uniformly and quickly obtained. Specify this brand in your next order. Notice the *purity, strength, aroma, solubility* and *entire perfection of manufacture.*

Such trial by you will result in benefits mutual and permanent, as you will thereafter use no other.

Charras Essential Oils.

CLAYTON ROCKHILL,

COMMISSION MERCHANT,

30 PLATT STREET, NEW YORK

SOLE AGENT IN THE UNITED STATES FOR

CHARRAS & CO., Nyons Drome, France

Aloes, Coca Leaves, Guarana. Select Licorice Root Gentian Root, Hellebore Root, Orris Root. Juniper Berries Rhubarb Root, Am. Saffron.

R. HILLIER'S SON COMPANY,

46 CEDAR STREET, NEW YORK.

Pure Powdered Drugs and Spices.

See James Chaskel & Co.'s Advertisement on Page 34.

VANILLA

BEANS, EVERY QUALITY,

FOR SALE BY

TYLER & FINCH,

54 CEDAR ST., NEW YORK

BALLER'S OIL OF LEMON.

We guarantee every can. We will take back any can not EQUAL in your opinion to the BEST in the market.

BULL'S PURE DALMATIAN INSECT POWDER

Business established 1851. Powdered in this country from selected flowers. Not to be compared with powder ground abroad. The best and cheapest.

Write for Samples & Prices to **CODMAN & HALL.** 125 Milk St. Boston

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BOTANIC DRUGGIST—Wholesale.

H. L. JEWELL,

45 N. Front Street - - - - PHILADELPHIA, U. S. A

GUM SHELLAC

ALL GRADES.

HOWE & FRENCH, - - BOSTON

RHUBARB!

ALL GRADES OF THIS ROOT;

Whole, Cut, Chip, Ground, Sawdust, and Powdered.

Importers and First Hands,

DODGE & OLCOTT,

86 & 88 William St., NEW YORK.

Have Just Received

SOZOIODOL,

(Trommsdorff's.)

A new Antiseptic, substitute for iodoform, devoid of odor and containing a larger per cent. of Iodine than Iodol. Recommended by eminent German physicians.

EIMER & AMEND,

205, 207, 209 & 211 Third Avenue,

NEW YORK.

Sole Agents for the U. S.

H. TROMMSDORFF

Erfurt Chemical Works, Erfurt, Germany.

OFFER TO THE TRADE A FULL LINE OF

Scientific, Pharmaceutical, Technical Preparations & Chemicals

THROUGH THEIR AGENTS

EIMER & AMEND.

NEW YORK.

CHEMISTS' SUPPLIES

Strictly Chemically Pure Acids,
Strictly Chemically Pure Chemicals,
Superior Bohemian Glassware,
Superior Filterpapers,
Superior German Porcelains,
Superior Heating Apparatus,
Superior Graduated Ware,
Perfect Balances and Weights,
Perfect Acid-proof Stoneware,
Platinum Vessels and Salts,
Selected Drugs, Chemicals and Pharmaceutical Preparations,
All Testing Appliances and Reagents

OFFERED BY

EIMER & AMEND,

205, 207, 209 & 211 Third Avenue, NEW YORK.

SOLE AGENTS FOR

H. Trommsdorff's Chemicals,
Joseph Kavalier's Bohemian Glass
Schleicher & Schull's C. P. Filter-papers,
E. Marchs' Sons, German Stoneware,
Dr. C. Scheibler's Polariscopes,
Professor Jolly's Spiral Balances

PERFECT POSTAL PACKAGES

Improved QUALITY,

Reduced COST.

Lightest, Strongest, Cheapest.

ABSOLUTELY SAFE FOR MAILING LIQUIDS, OILS, SYRUPS AND OTHER SAMPLES.

Approved by the U. S. P. O. Dep't.

POST OFFICE DEPARTMENT.

Office of the General Superintendent of Railway Mail Service.

WASHINGTON, D. C., December 12, 1887.

POSTAL PACKAGE CO., Baltimore, Md.

SIRS—I have *carefully* examined your Package, &c. This Package conforms in ALL RESPECTS to the requirements of the Department, and is suitable for the transmission of Liquids in the mails.

Very respectfully, T. E. NASH, *General Sup't.*

Made in any Size. SEND FOR SAMPLE AND PRICE LIST.

Also Screw Top Tin Mailing Cases for Fertilizers, Flour, Grain, etc.

Self Sealing Screw Top Cans.

NO EXTRA COST

For

Solder or Fuel,

AS THEY

Do Not Require

TOOL OR KNIFE.

EASILY OPENED AND CLOSED.

CONTENTS PRESERVED UNTIL ALL IS REMOVED.

Can be used any number of times. Top or Can not injured in opening.

Particularly Adapted For

Mixed Paints, White Lead, Varnish, Printers' Ink, Colors,

Condensed Milk, Lard, Vegetables, Fruit, Spices.

ABSOLUTELY OIL AND AIR TIGHT.

MADE IN ALL LEADING SIZES.

Sole Manufacturers and Patentees:

POSTAL PACKAGE CO.

No. 34 S. PACA ST., BALTIMORE, MD., U. S. A.

man, Dutch and Belgian product in coating power. This is most likely attributable to the rapid process of manufacture in America, which partly is also practised here. Of white zinc, however, several lots have appeared in this market, but, as far as is known to me, were sold at a loss, the article not having that pure white color for which the Silesian and Belgian article is famous. The white lead of lots imported from the United States has a yellowish-gray color and was heavier than the before mentioned article produced here. The white lead made by your company, the Carter White Lead Co., in this country, gives perfect satisfaction, and the day is not far distant when we will make larger importations.

Note on Morphine.

BY DR. O. HESSE.

In a communication from Mr. D. B. Dott, relating to morphine hydrate, he states that with the exception of Wurtz's "Handbook," in all the English, French and German works that he was able to examine, he found morphine described as losing its water of crystallization only at a temperature above 100 deg. C., and he suggests that the contrary statement is probably accidental. First, premising that I regard the water contained in crystallized morphine as being nothing more than water of crystallization, I must point out, as in extension of Dott's statement, that in the article "Morphine" which I wrote for the *Neues Handworierbuch der Ceemie* I have described morphine as losing its water of crystallization between 90 deg and 100 deg C. That representation was based upon numerous experimental determinations made by myself, of the accuracy of which I was so convinced that I considered reference to the older incorrect statements to be superfluous. It also appeared to me desirable to mention those results at the time when I wrote the article, because Professor Fluckiger had stated some little time previously, in dealing with the determination of morphine in opium, that the alkaloid dried at 100 deg. C. had the composition $C_{17}H_{19}NO_3+H_2O$, and had thus furnished opportunity for the formation of an incorrect estimate of the actual amount of morphine in opium.

Air-dried crystals of morphine become dull in appearance at 60 deg. C., owing to the loss of some water crystallization; but they become anhydrous only at 90 deg. C. At this temperature, however, it requires a long time to drive off all the water; but at 100 deg. C. the condition of perfect dryness is soon acquired. In other respects my experiments showed that the amount of water of crystallization was exactly one molecule for each molecule of morphine, and consequently I question the accuracy of the formula $8C_{17}H_{19}NO_3+9H_2O$, suggested by Mr. Dott as representing crystallized morphine.

Another incorrect statement respecting morphine that is often to be found in chemical works is that its melting point is little above 120 deg. C., and that the alkaloid is decomposed at that temperature. My observations have led me to the conclusion that the melting point is certainly not constant; but they have also enabled me to perceive that this alkaloid does not melt much below 230 deg. C., and at that temperature it undergoes decomposition.

In regard to the morphine reaction mentioned by Mr. Lister Armitage, there is no doubt that it is a very delicate one; but I am disposed to think that the explanation offered by him is not quite applicable.

When, for instance, a dilute solution of morphine salt is mixed with ferric chloride there is no reduction of the iron, at least for some length of time, although addition of potassium ferridcyanide at once produces a blue coloration. This would show that there had been some immediate alteration of the alkaloid by the ferridcyanide, and in fact when water solutions of a morphine salt and potassium ferridcyanide, and in fact when water solutions of a morphine salt and potassium ferridcyanide are mixed the result is the formation on the one hand of pseudi-morphine and on the other of hydroferrocyanic acid. When morphine hydrochloride is used the reaction takes place in the manner shown by the following equation:

$$8(C_{17}H_{19}NO_3.HCl)+8K_3FeCy_6=4(C_{34}H_{38}N_2O_6.2HCl)+6K_4FeCy_6+2H_4FeCy_6.$$

The solution in consequence of this change acquires an acid reaction, and, if not too dilute, pseudomorphine ferrocyanide is deposited as a resiniform precipitate that is somewhat freely soluble in water. This ferrocyanide compound is the cause of the blue coloration that takes place when ferric chloride is added at the same time. Therefore it is not potassium ferridcyanide reacting upon ferrous chloride, but a ferrocyanide compound reacting upon ferric chloride.

This reaction may be shown in a very striking manner by adding to a very dilute and but faintly yellow solution, containing equivalent quantities of ferric chloride and potassium ferridcyanide, very small quantities of a moderately concentrated solution of a morphine salt. The addition of only a single drop of the latter suffices to produce intense blue coloration of iron solution. When the morphine solution is very dilute (for example, 1 in 1000), a drop of it does not immediately produce coloration; but after a few seconds blue streaks become apparent in the iron solution. This affords a means of observing the progress of the diffusion of a dilute morphine solution through a solution containing iron when added drop by drop without stirring the latter.—*Phar Jour. & Trans.*

Government Cinchona-Growing in Java

The Java cinchona-planters consider themselves aggrieved by the action of the Dutch Indian Government, which is vigorously extending its cinchona plantations in different parts of the island and sending the bark for sale to Europe in competition with the private growers. A number of the latter, therefore, have now presented an address to the Governor General of the Dutch Indies, in which they call attention to what they allege to be the unfair government competition, and request that the director of the government cinchona plantations may be instructed not to lay out any new gardens, or to renew planting where trees are cut down. The memorialists point out that originally the government plantations were commenced solely for the purpose of ascertaining whether cinchona cultivation was practicable in the Dutch colonies, and of encouraging and assisting private planters in raising trees, while the commercial aspect of the government undertaking was limited to the sale of a sufficient quantity of bark to defray the working expenses of the gardens. It is further asserted that the private planters are heavily taxed, while many of them also work with borrowed capital, and are otherwise hampered in their undertakings. and it is pointed out that the cultivation of cinchona is still extending very largely, while the estimated consumption of quinine only increases by about 10 per cent. per annum, and that, moreover, at the present market prices of the bark, the Government gardens, so far from being a source of profit, are worked at an absolute loss. In 1885, for instance, the last year of which complete official figures have been published, the Government bark, which averaged 3·15 per cent. quinine sulphate, cost 37½ cents per half-kilo, or 6¾ per lb., to produce, so that it must have left a loss of about 2d per lb. at the unit figures then ruling in Europe. The case of the Java planters certainly appears to be a strong one, but it is doubtful whether the government will accede to their request, and difficult to see how they could do so except by selling their cinchona gardens outright to the highest bidder. It may here be mentioned that, although the shipments of government bark have risen from 432,718 half-kilos in 1885, to 525,698 half-kilos in 1886, and are estimated at 700,000 half-kilos for 1887, yet the exports of bark by private planters have increased in very much larger prapartions, and are now four times as heavy as those of the government, whereas in 1884 they barely equalled the latter'

The Flower Industry of Grasse.

A paper on this subject was read before the Chemists' Assistants' Association of London on March 8 by Mr. F. W. Warrick, and was listened to with much interest.

The town of Grasse is perhaps more celebrated than any other for its connection with the perfume industry in a province which is itself well known to be its home.

The town of Grasse itself is situated in the southern portion of the department, and enjoys its fair share of the advantages this situation affords. It is about ten miles from Cannes (Lord Brougham's creation), and, as the crow flies, twenty-five miles from Nice, though about forty miles by rail, for the line runs down to Cannes and thence along the shore to Nice.

The following are the plants put under contribution by the perfume factories of the district, viz, the orange-tree bitter and sweet, the lemon, eucalyptus, myrtle, bay laurel, cherry-laurel, elder; the labiates; lavender, spike, tyhme &c.; the umbelliferous fennel and parsley, the composit wormwood and tarragon, and, more delicate than these, the rose, geranium, cassie, jasm'n, jonquil, mignonette, and violet.

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BRANDT & KIENZLER, 160 Franklin St., N. Y.

For Soda Water Syrups.

CHOCOLATE ESSENCE

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Oils, Etc.

Vegetable Oils.

Linseed Domestic Raw, in bbls.	₩ gal	56	@ 57
Boiled, in bbls.		—	@59
Calcutta, Raw, in bbls.		56	@57
Western on spot.		53	@54
Rapeseed, in bbls.		54	@55
Cottonseed, Crude Prime		33	@34
Crude, off quality		32	@33
Yellow Summer Prime		39	@40
Yellow Summer, off qual.		37	@38
Yellow Summer cooking.		—	@—
White Summer		41	@43
Yellow Winter		50	@51
White Winter		51	@52
Soap stock		1¾	@ 1¾
Olive, Sicily		69	@70
Spanish		74	@75
Soap Stock		4¾	@ 5
Palm, Prime	₩ lb	4¾	@ 5
Off quality		4¼	@ 4¾
Cocoanut, Cuban		—	@—
Ceylon		5 30	@ 5½
Cochin		6¼	@ 6¾
Castor, No. 2		—	@—
No. 3		11½	@12
Rosin, First run	₩ gal.	—	@ 9
Second run		—	@12
Third run		—	@15
Deodorized		—	@18

Animal and Fish Oils.

Whale, Natural Winter	₩ gal.	40	@ 41
Bleached Winter		42	@ 43
Extra Bleached Winter		44	@ 45
Bleached Spring		40	@ 41
Sperm Natural Winter		68	@ 71
Bleached Winter		73	@ 75
Natural Spring		63	@ 65
Bleached "		67	@ 69
Sea Elephant, Bleached Winter		55	@ 56
Unbleached Winter		50	@ 51
Lard, Prime City		62	@ 64
Prime, Western		62	@ 63
Extra No. 1		51	@ 52
No. 1		40	@ 43
No. 2		33	@ 35
Menhaden, Prime Crude		29	@ 30
Prime Southern		—	@ —
Brown Strained		30	@ 31
Light Strained		31	@ 33
Extra Bleached Winter		26	@ 37
Bleached Winter		33	@ 34
Bank		30	@ —
Straits		30	@ 31
Oleo		8	@ 9½
Cod Domestic, prime		30	@ 33
Newfoundland		—	@ —
Black Fish, Crude		—	@ —
Natural		—	@ —
Bleached Winter		—	@ —
Degras, English		2¼	@ 2¼
Frenc h		—	@ —
Tallow Prime			@ 48
Neatsfoot, Prime		60	@ 75
No. 1		55	@ 60
No. 2		45	@ 50
Saponified Red		33	@ 34
Elaine Red		32	@ 34

Mineral Oils.

Paraffine Gas Oil	₩ gal	5½	@ 6
Paraffine, 23 gravity		18	@19
23½@24 gravity		11½	@12
25 gravity		10½	@11
28 gravity		8½	@ 9
Red Paraffine, 21@21½ gravity		16	@17
22½@23 "		13	@14
High viscosity		18	@—
Neutral Filtered, 32 grav. bloomless		18	@20
extra cold test		12	@40
34 gravity, bloomless		16	@18
37 gravity, bloomless		15	@16
32 gravity, wool grade		11	@12
West Virginia, Natural, 29 gravity		17	@18
Franklin Natural, 32 gravity		—	@—
Smith's Ferry, 33@34 gravity		8½	@ 9
Black Reduced, 29 gravity, 25@30 c. t.		8½	@ 9
29 gravity, 15 cold test		9	@10
29 gravity zero		10	@11
Summer		7	@ 7½
Cylinder, Light Filtered		15	@20
Dark Filtered		14	@21
Extra cold test		—	@—
Dark Steam Refined		10	@18

Oil Cake

Calcutta Cake, City	₩ ton.	26 75	@ ——
City domestic		$35 00	@ ——
Western, in bags		25 00	@ ——
Cottonseed cake at Memphis		18 00	@18 50
do do New Orleans.		——	@21 00

Oil Meal.

State domestic meal	₩ ton	$26 25	@ ——
Cottonseed meal at Memphis		16 00	@16 50
do do New Orleans.		21 00	@ ——

Wax, Candles, Lard, Tallow, Etc

Paraffine Wax, Crude, 124@126 m p	₩ lb	4½	@ 4¾
128@130 m. p.		4¾	@ 5
Refined 135 m. p.		9½	@10¼
Candles, Paraffine 4s and 6s		9½	@11½
12s		10	@12½
Adamantine 6s, 16 oz		—	@ 9
14 oz		—	@ 8
12 oz		—	@ 7
12s, 16 oz		—	@10
14 oz		—	@ 9
12 oz		—	@ 8
Patent Sperm, 4s and 6s		48	@49
Sperm, 4s and 6s		41	@42
Stearic Acid		11	@13
Spermaceti		35	@36
Lard		7 85	@8 35
Stearine		6	@ 8
Tallow		4¾	

Naval Store

Sp tur'tine	39	@ 40	I	—	@1 55
St'd rosin.	@1	22½	K	—	@1 65
G'd st'd	—@1	25	M	—	@1 85
B	1 27½	@1 30	N	—	@2 10
F	1 32½	@1 35	W G	2 75	@2 80
G	1 37½	@1 40	W W	3 15	@3 20
H	1 45				

Paints, Varnishes, Etc.

White Lead, Zinc Etc.

American Dry White Lead	₩ lb	6	@ 6½
Pure White Lead, in oil		6½	@ 6¾
English White Lead, in oil		8½	@ 8¾
Zinc White, Paris, G S, 50 bbls		7¾ less 4	₩ ct
G S, 25 bbls		7¾	2 ₩ ct
G S, 10 bbls		7¾	1 ₩ ct
R S, 50 bbls		6½	4 ₩ ct
R S, 25 bbls		6½	2 ₩ ct
R S, 10 bbls		6½	1 ₩ ct
Antwerp R S, 50 bbls		6½	4 ₩ ct
R S, 25 bbls		6½	2 ₩ ct
R S, 10 bbls		6½	1 ₩ ct
V M Co., grinding in poppy oil, Green Seal		10¾	@10½
Grinding in poppy oil, Red Seal		6¾	@ 9¾
French in Varnish		18	@20
American Extra Dry		4¼	@ 4¾
Off color		4	@ 4½
In oil		6¼	@ 6¾
In varnish		14	@18¾
L. Z. O. German Zinc		5½	@ 5
China White		10½	@12
Flake White		10½	@12
Cremnitz White		15	@20

Dry Colors.

REDS.

Carmine No. 40	₩ lb	3 15	@ 3 50
Crocus Martus, Imported		1¾	@ 2¼
Standard American		1¾	@ 2¼
Colcothar		5½	@ 6
Indian Red, American		5½	@ 6½
Standard American		3	@ 3
English		5½	@ 7
Tuscan Red, English		9½	@ 11
Turkey Red, English		9½	@ 14
Litharge, English Flake		9	@ 9½
American Powdered		8	@ 8½
Red Lead, English		8½	@ 9
American		6½	@ 6½
Orange Mineral, English		8½	@ —
French		9¾	@ 9¾
German		8½	@ 9
American		8	@ 8½
Rose Pink, English		9	@ 9½
American		8	@ 8½
Vermilion, Imported English		82	@ 85
Am. Quicksilver, bulk		60	@ —
Am. Quicksilver, bags		—	@ 61
Chinese		—	@ 17½
Trieste		72	@ 77
American		10½	@ 11
Artificial		8	@ 25
Venetian Red, Cookson's		1 40	@1 45
H.R.Co's Diam'd M		1 45	@1 50
Diam'd H		1 10	@1 25
F V A		1 05	@1 20
L N & Co Diamond H		1 10	@1 20
H B		1 10	@1 20
Bell Brand			@1 45
B O W		—	@1 30
V V R		—	@1 60
Crown		1 40	@1 50
Lion		1 20	@1 25
Anchor H		1 10	@1 20
American		1 00	@1 20
Cutter		1 30	@1 35

YELLOWS.

Chrome Yellow		10	@ 25
Ocher, Rochelle		1 35	@1 50
Washed Dutch		5	@ 5
Washed French		2	@ —
Washed Nat Oxford, Lump		6½	@ 6¾
Washed Nat Oxford, Powd'r.		7	@ 7½
Golden		3½	@ 4
Domestic		1½	@ 1¾
Domestic, for O C & W P		½	@ 1

GREENS.

Chrome Chemically Pure		22	@26
Extra		12	@13
Super		9	@11¾
Common		—	@ 8
Paris, Pure		—	@16¾
In Pulp		11	@12
French Verdigris		40	@43

BLUES.

Chinese Blue		48½	@53
Prussian Blue		20	@30
Soluble Blue		45	@55
Ultramarine Blue		7	@35
Celestial Blue		5½	@ 6
Blue Verditer		25	@30
Refiners'		60	@70

BROWNS.

Sienna, Italian, burnt & powdered		6	@ 6¾
Burnt lumps		3	@ 3¾
Raw powd. red		6	@ 7
Raw lumps		3½	@ 4
American, burnt & powdered		1½	@ 1¾
American, raw		1½	@ 1¾
Umber, Turkey, burnt and powdered		3½	@ 4
Burnt lumps		2½	@ 3
Raw and powdered		3½	@ 4
Raw lumps		1½	@ 2¼
American burnt		1½	@ 1¾
American, raw		1½	@ 1¾
VandykeBrown, English		6	@ 8
American		3	@ 3½
Spanish Brown		½	@ 1

Miscellaneous.

Barytes, Prime White	₩ ton.	16 00	@18 00
Foreign Floated		19 00	@21 00
Domestic Floated P & K		20 00	@22 00
Off color		12 00	@14 00
Chalk		2 75	@ —
Kiln Dried	₩ 100 lbs.	— 40	@ —
Air Dried		— 30	@ 35
China Clay	₩ ton.	13 00	@18 50
Cobalt oxide		2 30	@2 50
Feldspar	₩ ton.	15 00	@
Sliex		14 00	@25 00
Whiting, Commercial	₩ 100 lbs	— 45	@ 50
Gilders'		— 60	@ — 65
Paris White, English Cliffstone		1 05	@ 1 15
American		85	@ — 80
French Talc		1	@ 1 ¼
Terra Alba		— 75	@ 80
English Terra Alba		— 75	@ 80
Blanch Fix	₩ lb.	— 2½	@ 3
Dentists' Plaster	₩ bbl.	1 35	@ 1 50
Calcined Plaster	₩ bbl.	1 25	@ 1 50
Marble Dust	₩ bbl	90	@ 1 00
Pumice Stone, original cks	₩ lb.	— 1½	@ — 1¾
Selected lumps in bbls		— 2½	@ — 3½
Powdered Pure in bbls		— 1½	@ — 2¼
Rotten Stone, original cks		— 4	@ — 5
Selected lumps		— 5	@ — 7
Powdered, in bbls		— 3½	@ — 5¼
Rubbing Stone		—	@ — 7
Bronze Powder		—	@ —
Brocades		— 45	@ — 1
Smalt German Blue		— 15	@ —
Super Black		— 1½	@ — 2
Putty in bulk		— 1½	@ — 2½
In Bladders		— 2	@ — 2½
In Tins		— 3½	@ — 3¾

Glues.

Extra White	₩ lb.	18	@23
Medium White		14	@18
Cabinet		13	@16
Low grade		11	@13
Foot stock white		9½	@13½
brown		4	@ 8
Irish		12½	@14½
French		9½	@22½
English		10½	@15

Metallic Paints.

Brown	₩ ton.	$27	@33 50
Red	"	27 50	@33 —
Yellow	"	27 50	@33 —

Colors in Oil

Black Coach, Japan	₩ lb.	18½	@20
In Oil		12	@13
Drop Black		8½	@14½
Ivory Black		8½	@14½
Lamp Black		12	@20
Chinese Blue		35	@40
Prussian Blue		30	@45
Ultramarine Blue		12	@18
Burnt Sienna		7	@14
Raw Sienna		7	@14
Burnt Umber		7	@11
Raw Umber		7	@11
Vandyke Brown		7	@12½
Chrome Green		8	@14
Paris Green		16	@18½
English Drop Black		12½	@14
American Drop Black		7½	@10
Frankfort Drop Black		25	@30
Lampblack, Prime		27½	@33
Medium		19½	@26
2d quality		13	@19
Low grade		6½	@10
Naphtha, Black		60	@—
Fine Calcined Velvet Black		16	@25
Medium Calcined Velvet Black		12	@15

Varnish Gums.

Copal, Sierra Leone, cleaned		35	@ 40
Zanzibar, Bold white		72	@ 75
Medium white		62	@ 65
Bean & Pea		35	@ 40
Manila, Pale		17	@ 20
Bright amber		13	@ 15
Standard		10	@ 11½
Damar, Batavia		22	@ 23
Kauri, Standard		18	@ 20
No. 2		14	@ 16
Hard Scraped		—	@ 22
Light hard scraped		—	@ 37
Picture quality		65	@ 70
Pale and Fine Selected		42	@ 65
Sandrac		17½	@ 20
Asphaltum, Cuban, prime		5½	@ 6¾
Cuban, sandy		4½	@ 5¾
Egyptian		3	@ 9

Glass.

PLATE AND WINDOW.

FRENCH SINGLE.

Prices per Fifty Feet.

Sizes.	1st.	2d.	3d.	4th
6x 8 to 10x15	$10 50	$ 9 00	$ 8 50	$ 8 00
11x14 to 16x24	11 50	10 75	10 25	9 75
18x22 to 20x30	15 50	14 00	13 00	12 50
15x36 to 24x30	16 50	15 00	13 50	.....
26x28 to 24x36	17 75	16 3	14 75	.....
26x36 to 26x44	19 00	17 50	15 25	.....
28x46 to 30x50	21 00	19 50	17 00	.....
30x52 to 30x54	22 00	20 25	18 00	.....
30x56 to 34x56	23 00	21 25	19 00	.....
34x58 to 34x60	24 00	22 75	21 00	.....
36x60 to 40x60	26 50	24 50	23 00	.....

FRENCH DOUBLE.

Prices per Fifty Feet.

Sizes.	1st.	2d.	3d.	4th
6x 8 to 10x15	$13 00	$12 50	$12 00	$11 50
11x14 to 16x24	16 00	15 00	14 50	.....
18x22 to 20x30	20 50	19 50	18 50	.....
15x36 to 24x30	22 00	20 75	19 50	.....
26x28 to 24x36	25 00	23 00	21 50	.....
26x36 to 26x44	26 00	25 00	23 00	.....
28x46 to 30x50	28 00	26 50	24 50	.....
30x52 to 30x54	31 00	30 00	28 00	.....
30x56 to 34x56	33 00	31 25	29 00	.....
34x58 to 34x60	34 00	32 75	31 00	.....
36x60 to 40x60	36 50	34 50	32 00	.....

Discounts:—70 10 & 5 for S & D.

AMERICAN SINGLE.

Sizes.	1st.	2d.	3d.	4th.
6x 8 to 10x15	$10 50	$ 9 00	$ 8 50	$ 8 00
11x14 to 16x24	11 50	10 75	10 25	9 75
18x22 to 20x30	15 50	14 00	13 00	12 50
15x36 to 24x30	16 50	15 00	13 50	.....
26x28 to 24x36	17 75	16 25	14 75	.....
26x36 to 26x44	19 00	17 50	15 25	.....
26x46 to 30x50	21 00	19 50	17 00	.....
30x52 to 30x54	22 00	20 25	18 00	.....
30x56 to 34x56	23 00	21 25	19 00	.....
34x58 to 34x60	24 00	22 75	21 00	.....
36x60 to 40x60	26 50	24 50	23 00	.....

AMERICAN DOUBLE.

Sizes.	1st.	2d.	3d.	4th.
6x 8 to 10x15	$13 00	$12 50	$11 00	10 00
11x14 to 16x24	16 00	15 00	13 50	13 00
18x22 to 20x30	20 50	19 50	18 00	.....
15x36 to 24x30	22 00	20 75	18 75	.....
26x28 to 24x36	25 00	23 00	21 00	.....
26x36 to 26x44	26 00	25 00	22 50	.....
28x46 to 30x50	28 00	26 50	23 75	.....
30x52 to 30x54	30 00	28 00	25 25	.....
30x56 to 34x56	31 00	30 00	27 00	.....
34x58 to 34x60	32 50	31 00	28 00	.....
36x60 to 40x60	36 00	33 50	30 00	.....

Discounts:—75&5@75&10.

Drugs.

Opium.

Opium, in bond	₩ lb.	2 12½	@2 25
duty paid (cases)		3 12½	@3 15
as wanted		3 25	@3 30
powdered		4 75	@ —
Morphine		2 45	@2 85
Foreign		2 35	@2 55

Quinine.

Quinine, American	₩ oz.	49	@ 55
English		——	@——
French		—	@——
German		42	@ 52
Cinchonidia, American		5	@ 5½
Foreign		4½	@ 5½
Quinidia German		16	@ 20

Miscellaneous.

Acid benzoic German	₩ lb	42½	@ 45
English	₩ oz	12½	@ 13
boracic purified	₩ lb		@ 25
refined		11½	@ 15
flaky		17	@ 17¼
Carbolic, pure crystals		31	@ 42
commercial		30	@ 38
Citric, Domestic		49	@ 50
Foreign		49	@ 51
Salicylic, bulk & boxes		1 62½	@ 1 72½
Alcohol, 94 p ct, Free	per gal.	2 12	@ 2 15
Refi'd wood, 95 p ct		—	@ 1 25
92 p ct.		—	@ 1 20
Dia Methyl, 98 p ct		1 35	@ 1 60
Inodorine, 97-99 p ct		1 60	@ 1 70
Cologne spirits, 188 p t		2 20	@ 2 25
Ambergris Gray		32 00	@30 00
Black		9 00	@12 00
Ammonia Carb, Foreign		7½	@ 8
Domestic		8½	@ 8¾
Bay rum imp. bulk		1 95	@ 2 00
Barbadoes Tar		38	@ 40
Borax, Refined City, bbls	₩ lb	8	@ 8¾
Cal., bbls		7½	@ 8¼
Concentra'ed		7½	@ 7¾
Powdered		7½	@ 8
Bromine		37	@ 38
Burgundy Pitch		2½	@ 2¾
Cantharides, Russian		1 45	@ 1 55
Chinese		45	@ 65
Calomel, Domestic		68	@ 70
English		1 00	@1 10
Castile Soap, White		10¾	@ 10¾
Mottled ordinary		4½	@ 4¾
pure		5½	@ 6
Chian Turpentine	₩ oz	45	@ —
Chloroform		40	@ 50
Colocynth Apples, Trieste	₩ lb	—	@ 50
pressed		—	@ —
Spanish		28	@ 30
Cacao Butter		40	@ 50
Chloral Hydrate, crystals		1 55	@
plates		1 25	@
Corrosive Sublimate		60	@ 62
Cuttlefish Bone, Trieste		21	@ 23
Dragon's blood mass		20	@ 22
" " reed		42	@ 45
Ergot, Spanish		42	@ 45
German		38	@ 40
Gelatine, English		50	@ 60
French		32	@
American		85	@ —
Glucose		3	@
Grape Sugar		3	@ 3½
Glycerine, German, dms		21½	@ 22
H L & Co, bbls & cs		21½	@ 24
W J M G, bbls & cs		21½	@ 22
A. G. Co. C. P., bbls & cs		21½	@ 22
do do No 1, pure white		20½	@ 21½
M W & CO. C P Bbls & cans		21½	@ 22
" " P W Bbls & cs		20½	@ 21½
C G Co., bbls & cs		21½	@ 22
M & R Bbls & cs		20½	@ 23
Glycerine, crude		18	@ 20
Guarana, Whole		1 12½	@ 1 15
Powdered		1 20	@ 1 25
Iceland Moss		4½	@ 5
Indian Hemp, (Canabis In)		10	@ 12
Insect Powder		47½	@ 55
B. W. B		—	@ 55
Irish Moss		5	@ 1
Isinglass, Russian		3 75	@ 4 00
American ordinary		75	@
prime		90	@ 1 00
Iodine, re-sublimed		3 50	@
Licorice Corigliana		29	@
Guazolini		26	@ —
Gais Grasso		24	@ 26
"P. & S."		28	@ 29
Domestic		20	@
Paste		13	@
Lupulin, American	₩ lb	70	@
German		50	@
Lycopodium, prime		40	@ 42
Manna, Large Flake		72½	@ 75
Small Flake		39	@ 41
Sorts		37	@ 38
Menthol		2 00	@ 2 50
Musk, True Grain	₩ oz	15 00	@40 00
Tonquin Pods		8 50	@26 00
Canton Grains		20	@ 1 00
Nitrate Barium	₩ lb	8½	@ 9
Stronta	₩ lb	9½	@ 10
Nux Vomica, pockets	₩ lb		@
Oil, Almond, Sweet		30	@ 37
Myrbane, American		17	@ 19
English		17	@ 19
German		—	@ —
Sesame	₩ bbl	65	@ 70
Castor City, bbls & cases		14	@ 15
Cod Liver Norwegian	₩ bbl	24 00	@30 00
New	gal	65	@ 70
Phosphorus	₩ lb	70	@ 75
Precip. Red		78	@ 80
White		82	@ 85
Precipitated Chalk, Eng. bk		6	@
bdls		7	@
Potassium, Bromide, bulk		34	@
glass		42	@ 43
Iodide, bulk		2 70	@ 2 75
glass		2 78	@ 2 85
Quicksilver		61	@ 63
Sago, Pearl		3	@ 3½
Flour		3½	@ 3¾
Sugar of Milk, Cob		17½	@ 19
Powdered		18	@ 21
Sulphur, Roll			@ 3¼
Flour			@
Saltcine		3 75	@ 4 00
Tamarinds	₩ kg	1 00	@ 1 75
Venice Turpentine	₩ lb	18	@ 20
Wax, Brown Southern		26	@ 27
State		25	@ 26
Brazil		12	@ 16
White, pure		40	@ 45
Japan		11½	@ 12
Carnauba		10	@ 14
Ceresin		13	@ 14

Balsams

Copaiba, Angostura	₩ lb	65	@—
Para		60	@62½
Central American		55	@57½
Fir, Canada	₩ gal	2 25	@2 50
Oregon		1 15	@1 20
Peru	₩ lb	1 10	@1 15
Tolu		80	@ 85

Barks

Angostura	₩ lb	—	—
Bayberry		7 @	8
Buckthorn		4 @	5
Cascarilla		6½@	8½
Canella		12 @	12½
Cinchona, Red		20 @	1 45
Yellow		12 @	1 25
Coto		— @	75½
Elm, common		9 @	10
selected		12 @	14
Leza		30 @	32
Oak, White		3½@	4
Red		3½@	4
Orange Peel, West Indian		4 @	6
Malaga, prime		7 @	10
Curacoa		7½@	15
Prickly Ash		12 @	15
Pomegranate (of root)		13½@	17
Quebracho		15 @	20
Sassafras		6 @	6½
Simaruba		30 @	40
Soap, Whole		5½@	6
Crushed		6½@	6¾

Beans.

Vanilla, Mexican	₩ lb	4 00 @	12 00
Bourbon		2 50 @	8 00
Tonka Angostura		1 25 @	1 35
Surinams		65 @	75
Para		40 @	45
Calabar		22 @	25
St. Ignatius		50 @	55

Berries.

Cubeb	₩ lb	1 35 @	1 50
Juniper		7 @	8
Fish (Cocculus Ind')		4 @	4½
Laurel		5 @	—
Prickly Ash		20 @	—

Essential Oils.

Anise	₩ lb	1 55 @	1 60
Almond (bitter)		2 50 @	6 75
Bay, ₩ bottle of 22 ozs		5 00 @	8 50
Bay Oil, per lb		3 62½@	4 73
Bergamot		2 60 @	3 00
Black Pepper		65 @	5 50
Cajeput		65 @	70
Camphor		9½@	12
Caraway, Seed		1 25 @	1 80
Chaff		50 @	62½
Cassia		72½@	75
Citronella		30 @	35
Clove		1 60 @	1 70
Copaiba		75 @	78
Croton		95 @	1 00
Cubebs		13 00 @	14 00
Cumin, American		3 50 @	5 50
Fennel		85 @	—
Seed		1 50 @	—
Geranium, Turkish		3 00 @	3 50
Rose, French		7 75 @	12 00
Gingergrass		2 25 @	—
Juniper, once rect		— @	1 00
Twice rect		1 50 @	2 00
Wood		27 @	37
Lavender, Garden		50 @	75
Flowers		1 75 @	1 85
Flowers, Charras		1 60 @	1 90
		1 35 @	1 70
Lemon		79 @	75
Lemongrass		45 00 @	—
Neroli, Bigarade		27 50 @	—
Portugal		50 00 @	—
Petale		2 00 @	2 25
Nutmeg		1 15 @	1 60
Orange, Sweet		1 65 @	4 00
Bitter		18 @	25
Origanum		30 @	44
Charras		1 85 @	2 00
Peppermint, tin cans		2 25 @	2 30
A. M. T. crystal white tins		2 25 @	2 50
cases		2 70 @	2 95
Pennyroyal		75 @	80
Rose		4 65 @	4 75
Ibmsen's	₩ oz	5 00 @	5 25
Holstein's		4 75 @	5 00
Rosemary, Trieste	₩ lb	47½@	—
French		— @	35
Flowers		70 @	1 10
Flowers, Charras		80 @	1 10
Sandalwood		2 25 @	10 50
Sassafras		47 @	51
Spearmint		2 50 @	3 00
Tansy		2 25 @	2 50
Thyme, Red		21 @	82½
White		80 @	1 10
Wintergreen		1 70 @	1 75
Wormseed		1 50 @	—
Wormwood		4 50 @	5 00

Flowers.

Arnica	₩ lb	7 @	8
Chamomile, German		22 @	24
Roman (new)		32 @	34
Insect		45 @	57½
Lavender		3 @	3½
Rosemary		15 @	20
Saffron, American		17 @	18
Alicante,		8 00 @	8 50
Valencia		14 00 @	14 50

Gums.

Aloes, Cape	₩ lb	5½@	7
Barbadoes		19 @	25
Curacoa		4 @	4½
Socotrine		40 @	52
Arabic, 1st picked		82½@	95
2d picked		82½@	85
3d picked		72½@	75
4th picked		62½@	65
5th picked		52½@	55
6th picked		34 @	35
Sorts		50 @	70
Siftings		23 @	40
Senegal		34 @	48
Asafœtida		10 @	11
Benzoin		30 @	45
Camphor, refined, in bbls		26 @	26½
in cases		27 @	27½
Chicle		27½@	30
Euphorbium		15 @	17
Gamboge, pipe and block		60 @	62½
Gedda, Siftings		— @	—
Sorts		— @	23½
Guaiac		18 @	25
Kino		11 @	12
Mastic		90 @	1 00
Myrrh		22 @	35
Olibanum, Tears		16 @	10
Sorts		6½@	7½
Sandrac		24 @	28
Scammony, Aleppo		35 @	3 75
Virgin		7 50 @	—
Tragacanth, Aleppo, 1st flake		47 @	49
2d flake		42 @	44
3d flake		— @	40
Turkey, 1st flake		75 @	80
2d flake		57½@	60
3d flake		45 @	47½

Herbs and Leaves.

Aconite	₩ lb	9 @	11
Althea		8 @	10
Belladonna		14 @	1
Buchu, Short		6½@	8
Long		20 @	25
Coca		25 @	32
Damiana		25 @	28
Digitalis		6 @	9
Eucalyptus		4 @	5½
Grindelia Robusta		12 @	14
Henbane, (Hyosciamus)		12 @	14
Horehound		6 @	8
Jaborandi		25 @	27
Laurel		3½@	4
Lobelia		4 @	7
Mallee		20 @	22
Marjoram, German		14 @	20
French		9 @	11
Prince's Pine		— @	8
Rose, Red		80 @	1 05
Pale		40 @	55
Rosemary		3 @	4
Sage, Italian		2 @	3½
Senna, Alex. Nat		24 @	25
Siftings		19 @	21
Garbled and sifted		34 @	35
Tinnivelly		10 @	20
Thyme		4½@	10
Uva Ursi		4 @	4½
Yerba Santa		12 @	14

Roots.

Aconite	₩ lb	10 @	12
Alkanet		8 @	10
Althea, Whole		12 @	12½
Cut		16 @	—
Angelica, German		10 @	12
American		9 @	10
Arrowroot, Bermuda		31 @	35
St. Vincent, bbls & cans		9 @	11
Jamaica		10 @	11
Arnica		— @	12½
Belladonna		13 @	14
Blood		10 @	12
Burdock		7½@	9
Calamus, Bleached		— @	40
Unble'd, split & peeled		19 @	24
Canada Snake select		34 @	38
Colchicum		— @	10
Colombo		8 @	11
Culvers		15 @	16
Dandelion, German		10 @	12
American cut		11 @	13
Elecampane		6 @	8
Galangal		12 @	14
Gentian		4½@	4½
Ginseng		1 75 @	1 85
Ginger, Jamaica, Unbleached		10½@	11
American, Bleached		13½@	14½
London Bleached		14½@	15
Golden Seal		— @	65
Hellebore, White, powdered		13½@	6
Whole		5 @	6
Ipecac, Rio		1 90 @	2 00
Jalap		13 @	13
Kava Kava		28 @	30
Lady Slipper		12 @	15
Lovage, American		40 @	50
German		9 @	20
Licorice, ordinary		5 @	7
selected, in bdls		12½@	20
Mandrake		— @	5
Orris, Florentine		11 @	15
Finger		48 @	75
Verona		6 @	7½
Pareira Brava		25 @	—
Pellitory		16 @	18
Pink		42 @	45
Rhatany		5 @	8
Rhubarb, Whole		17½@	60
Cut		60 @	1 50
Sarsaparilla, Honduras		22 @	30
Mexican		7½@	7¾
American		6 @	—
Senega Southern		46 @	48
Western		44 @	46
Serpentaria, Texas		24 @	25
Stillingia		5 @	10
Squills, ordinary		— @	9
white, prime		8 @	9
Valerian German		10 @	11
Belgian		8 @	10
English		— @	17
Vermont		10 @	11
Yellow Dock		7 @	9

Seeds.

Anise, Italian	₩ lb	9 @	10
German		— @	—
Star		21 @	24
Canary, Sicily		3½@	3½
Smyrna		2½@	2¾
Spanish		3½@	3½
Caraway, Dutch		7 @	7¼
German		— @	—
Cardamom, Alleppy		45 @	80
Malabar		65 @	85
Mangalore		80 @	1 50
Celery		9½@	9½
Colchicum		45 @	50
Clover		9 @	11
Coriander, English		4 @	5
French		— @	—
German		5 @	5½
Cummin		12½@	13
Fennel, German		8 @	10
Fœnugreek		2½@	3½
Guinea Grains		7½@	8
Hemp, Russian		2½@	2¾
Smyrna		— @	—
Lobelia		25 @	30
Millet, Domestic	₩ bush	1 10 @	—
Foreign	₩ lb	1½@	—
Mustard, California yellow		4½@	4¾
Dutch		5½@	6
English		5½@	6
Trieste brown		7 @	8
Poppy		6½@	9
Quince, German		55 @	60
Russian		28 @	30
Rape, Domestic		2½@	3
English		4 @	3½
German		3½@	3½
Timothy		2½@	2¾

Shellac

D. C	₩ lb	21 @	22
Octagon B		17 @	18
V. S. O		16½@	17½
Diamond I		17 @	—
S. S		15 @	16
Garnet, A. C		10 @	12
T N Quality		12 @	12
Button		16 @	—
Bleached		19 @	20

Spices.

Cassia, Batavia	₩ lb	6½@	7
China		— @	4½
Saigon, rolls		33 @	35
broken		27 @	29
chips		7 @	10
Buds		— @	1½
Cloves, Prime, Zanzibar		18½@	19
Amboyna		24 @	—
Stems		4½@	5
Ginger, African		— @	4½
Calcutta		3½@	3½
Cochin		5½@	11
Mace, Batavia		57 @	—
Banda		57 @	60
Penang		57 @	60
Nutmegs, 110s		54 @	—
Pepper, Singapore		— @	16½
West Coast		15 @	15½
Acheen, prime		— @	14
Penang, white		— @	21
Singapore, white		— @	25
Red, Zanzibar		7½@	8
Bombay		— @	5½
Pimento, Prime		— @	5½

Chemicals.

Heavy Chemicals.

Alkali, 36 ₩ cent		1 10 @	1 15
Refined, high test		1 15 @	1 25
Bleach, over 35 ₩ cent		1 82½@	1 90
Salt cake		50 @	57½
Soda ash, Carb, 48 ₩ cent		1 25 @	1 30
High test		1 12½@	1 15
Caustic, 48 ₩ cent		1 20 @	1 25
High test		1 12½@	1 15
Newcastle, 48 ₩ cent		1 25 @	1 35
High test		1 25 @	—
Bicarb, English		3 10 @	3 25
American		3 00 @	3 50
Carbonate		1 75 @	1 80
Caustic, 60 ₩ cent		2 40 @	2 45
70 ₩ cent		2 20 @	2 25
74 ₩ cent		2 20 @	2 25
76 ₩ cent		2 35 @	2 40
Sal., English		95 @	1 15
American		95 @	1 20

Acids.

Acid, Acetic		2½@	3½
Chemically pure		16 @	17
Pure		5½@	5½
Oxalic		6½@	7½
Sulphuric, 60 deg		90 @	95
66 deg		95 @	1 20
Muriatic, 18 deg		1 15 @	1
20 deg		1 35 @	1 50
22 deg		1 40 @	1 80
Nitric, 36 deg		4 @	5½
38 deg		4½@	6
40 deg		5 @	6½
42 deg		5½@	7
Tartaric, Crystals		43 @	44
Powdered		44 @	45

Ammonias, Potashes and Fertilizing Chemicals.

Ashes, Pot, 1st sorts	₩ lb	4 @	4½
Pearl		5 @	5½
Potash, Chlorate, English		15 @	15½
Powdered		15½@	16½
Carb		4 70 @	5½
Caustic		7½@	8
Cyandide, fused		39 @	40
Sulphate or Potash		1 07½@	1 10
Aqua Ammonia (in obys)	16 deg. ₩ lb	3½@	3¾
	18 deg	@	4¾
	20 deg	@	6
	22 deg	@	7
	26 deg	10 @	11
Ammonia, Muriate		6½@	8
Sal		8 @	8¾
Sulphate		3 05 @	3 10
AMMONIATES, ETC:			
Azotine, per unit		2 20 @	2 25
Blood, Dried, Red, ₩ unit		2 25 @	2 30
Black, ₩ unit		2 15 @	2 20
Bones, Rough, ₩ ton		16 00 @	20 00
Ground, ₩ ton		30 00 @	35 00
Bone Black, refuse, ₩ ton		16 50 @	17 00
Kieserite		5 50 @	5 75
Menhaden Guano		25 00 @	26 00
Grand Caymans Phosphate Guano, per unit		— @	—
Phosphate Rock, f. o. b. Charleston		5 75 @	6 00
Phosphate Rock, f. o. b. New York		— @	7 00
Phosphate Rock, ground		9 00 @	9 50
Acid Phosphate		12 00 @	15 00
Potash Muriate	₩ 100 lbs.	1 72½@	1 77½
Kainit	₩ ton	8 75 @	11 00

Miscellaneous.

Acetate of Lime, American, Gray		2 37½@	2 40
American, Brown		1 60 @	1 65
Alum, Lump		1½@	1¾
Ground		1½@	2
Cake		1½@	1¾
Argols, Crude Oporto		— @	—
Plate		23 @	24
Half Refined		28 @	32
Arsenic, White		2½@	3½
Red		6½@	9½
Brimstone, Crude, best 3ds		19 00@	20 00
best 3ds		19 00@	20 00
Copperas, Ordinary		65 @	1 00
Best grades		1 00 @	1 20
Powdered		1½@	1¾
Cream Tartar, French, in bond		— @	—
American, 99 p. c.		32 @	32¾
Powdered, 99 p. c.		33¾@	34½
Glauber Salts		75 @	80
Epsom Salts		1 15 @	1 20
Nitrate of Lead		9 @	10
Soda		1 92½@	2 12½
Rochelle Salts		30½@	31½
Sugar Lead, Brown		7½@	8
White		13 @	13½
Liquor, White		@	—
Saltpeter, Crude		5 @	5½
Refined		6 @	8
Vitriol, Blue Ordinary		5½@	5¾
White		6¾@	8

Dyestuffs.

Acid Picric best crystal	₩ lb	50 @	55
Albumen prime egg		55 @	60
imported blood		14 @	15
domestic blood		14 @	15
No. 1½ blood		— @	—
Alizarine ass't		10 @	20
Annatto		12 @	25
seed		10 @	16
Archil Weed		7 @	15
Aurine		58 @	—
Barbary Root, cut		4 @	—
Bichromate of Potash, Scoton		10½@	11
American		10½@	11
Bichromate of soda		8½@	—
Carmine of Indigo		40 @	—
Cochineal, Teneriffe Silver		30 @	32
Black		30 @	32
Gray black		35 @	37
Mexican		— @	—
Ammoniac		— @	37
Cudbear, French		12 @	—
Concentrated		25 @	—
English		12 @	30
Cutch slab		7½@	7½
bag		7½@	7½
Dextrine		5½@	6
Divi Divi	₩ ton	45 00 @	50 00
Fuller's Earth, lump	₩ lb	90 @	95
powdered		1¾@	2
Flavine		21 @	23
Fustic stick	₩ ton	20 00 @	25 00
Gambier	₩ lb	5½@	5½
Garancine		5½@	9
Indigo, Bengal, low grade		85 @	1 00
medium		1 10 @	1 25
high grade		1 25 @	1 40
Caracas		— @	—
Kurpahs		75 @	1 05
Guatemala		73½@	80
Manila		70 @	75
Madras		65 @	85
Indigotine		3 00 @	4 00
Lac Dye		9 @	15
Logwood stick	₩ ton	25 00 @	38 00
Madder, Dutch	₩ lb	7½@	8
French		5 @	7
Myraboians		2 @	2½
Muriate of Tin		10 @	15
Nitrate of Iron, commercial		2 @	3
true		5 @	6
Nutgalls, Blue Aleppo		14½@	15½
Chinese		15½@	16½
Oxymuriate of Antimony		4 @	6
Persian Berries		21 @	26
Prussiate of Potash, Am. Yellow		18 @	19
Red		42 @	45
Scotch, Yel.		19½@	20
Red		43 @	45
Prussiate of soda		17½@	18
Phosphate of soda		7 @	8
Safflower		— @	—
Sago Flour		3½@	3¼
Salts of Tartar		6½@	7
Soluble oil		— @	6
Sumac, Sicily prime	₩ ton	57 50 @	70 00
Virginia		45 00 @	50 00
Starch, Corn	₩ lb	2½@	2¾
Potato		4½@	4¾
Wheat		5½@	6
Stannate of Soda, 50% soluble		@	15
40% soluble		@	12
25% soluble		@	9
20% soluble		@	8
Tin Crystals		26 @	28
Turmeric root Alleppy		3½@	3¾
Bengal		— @	—
Cowanga		3 @	3½
powdered		5½@	6
Ultramarine, imported		20 @	30
American		5 @	16
Vanadiate, Ammonium		90 @	1 00
Wood, English		9 @	10
COAL TAR COLORS			
Alizarine		19 @	20
Aniline Oil		20 @	25
salt, crystals		16 @	18
cake		20 @	21
Bismarck brown		80 @	1 20
Eosine		2 40 @	3 00
Fast red		50 @	65
Fast yellow—acid		75 @	1 50
Fuchsine crystals		1 25 @	1 75
Hoffmann's violet—3B		1 75 @	2 50
Methylene blues		4 50 @	6 75
Methyl violets—2R		1 50 @	2 00
2B		1 50 @	2 00
B		1 50 @	2 00
Nicholson (alkali) blue—3B		2 25 @	3 00
5B		3 75 @	4 00
Red shade		2 00 @	2 25
Nigrosine		1 35 @	2 00
Orange A—II		40 @	65
Safranine		1 75 @	2 25
Scarlet R		45 @	55
RR		50 @	65
RRR		70 @	75
Soluble blue—Green shade		2 00 @	3 50

These prices are for colors of standard purity in original packages. Reduced colors can be obtained at irregular and very much reduced figures.

CHIPPED DYEWOODS, ETC			
Barwood	₩ lb	1¾@	2¼
Camwood		4½@	6
Fustic, com		1½@	1¾
Cuban		1½@	1¾
Green Ebony		3½@	4
Hypernic		3½@	4½
Logwood Campeachy		2 @	2½
Laguna		2 @	2½
Nicwood		2 @	3
Peachwood		3½@	3½
Quercitron		1½@	—
Redwood		2 @	3
Red Sanders		— @	3
EXTRACTS:			
Archil	₩ lb		33½
Concentrated		21	—
Black Oak		3½@	28½
Barberry, French		26 @	30
Chestnut		5½@	—
Chestnut Oak		3½@	—
Ref'd Sedementless Hemlock		4½@	6
Prime Hemlock		3½@	4+
Fustic, solid		10½@	—
liquid, 51 deg		6 @	—
Indigo Extract		7½@	
Logwood, solid		— @	10
liquid, 51 deg		— @	7
42 deg		— @	6½
Madder		8½@	7½
Persian Berries, French	₩ lb		

COMPARATIVE PRICES.

CHEMICALS.	1887	1886	1885
Bleaching Powder	1 85	1 65	1 55
Caustic soda, 70 p. c	2 45	2 45	2 55
Caustic soda, 60 p. c	2 65	2 62	2 90
Sal soda	80	92	1 05
Soda ash 48 p.c. carb	1 25	1 40	1 45
Soda ash 48 p.c. caustic	1 20	1 35	1 35
Soda ash 48-58 p.c. N C	1 15	1 27½	1 30
Soda alkali 58 p.c. B M	1 20	1 30	1 35
Soda Nitrate	2 30	2 60	2 10
Brimstone	$20 25	$22 30	$24 50
Cream tartar	24½	24½	33½
Muriate of potash	1 70	1 75	1 75
Chlorate of potash	16	16½	15½
Kainit	$7 75	$7 30	$7 50
PAINTS.			
White lead in oil	5 83	7	5½
Litharge	5½	5¾	5½
Paris green	17	15	16½
Orange mineral	7¾	8½	7½
Ven. red, English	1 40	1 40	1 40
Ven. red, American	1 00	1 00	1 12½
Barytes	18 00	18 00	17 00
Whiting, com'l	35	40	35½
DRUGS.			
Opium	$4 12½	3 15	$3 60
Morphine (dom)	2 95	2 20	2 20
Quinine, German	45	68	76
Quinine (dom)	52	70	83
Cinchonidia (dom)	8	16	28
Alcohol	2 18	2 13	2 19
Borax, City	6½	7¾	8½
Beans, tonka (Ang)	1 30	1 68	90
Cubebs	1 25	72	60
Cuttlefish	16	13½	14
Glycerine (Am)	19½	15½	18
Oil, castor (City)	17	17	17
Oil, codliver, Nor	25 00	30 00	36 00
Quicksilver	52½	42½	44
Oil, bergamot	1 40	2 50	1 35
Oil, cassia	70	72	85
Oil, cubebs	11 00	7 25	6 50
Oil, lemon	1 15	3 00	85
Oil, peppermint (tins)	3 00	4 20	4 35
Oil, sassafras	37	36	40
Aloes, cape	5½	7	10
Asafœtida	9	11½	16
Gum arabic, 1st picked	92½	71	50
Gum arabic, sorts	57½	40	24
Camphor (bbls)	23	23	17½
Shellac, D C	19	18½	20½
Senna, Alex Nat'l	32½	25	11
Gentian root	4½	4¼	5½
Ipecac	1 87½	85	75
Canaryseed, Smyrna	3	2¾	2¾
Caraway seed, Dutch	8½	10½	11½
Coriander, English	4½	5½	7
Hempseed	1½	3	3½
Mustardseed, Cal. yel	4½	5½	4½
Mustards'd, Trieste, br	5	5½	5
Rapeseed, English	3½	3½	4½
Rapeseed, German	3½	3½	3½
OILS			
Linseed, (dom)	45	44	52
Cottonseed, prime S Y	38	31	39
Olive, Sicily	70	76	82
Palm, prime	5	6	7
Cocoanut, Ceylon	6	5½	6½
Lard, prime city	60	51	59
Menhaden, prime crude	22	26½	30
Whale, bleached winter	40	47½	63
Sperm, bleached winter	76	94	1 07
Paraffine, 25 gravity	8	10½	11
Neutral, 34 gr. b'less	12	16	18
Black, 20 gr. 15 deg	7½	9	9
Cylinder, 300 deg	15	18	20
Oil cake, western	29 75	27 25	29 50
Spirits turpentine	38½	42	31½
DYESTUFFS.			
Cochineal, Teneriffe S	30	36	32½
Cutch	7½	6½	5½
Gambier	5	5	4½
Indigo, Bengal h grade	1 25	1 50	1 50
Bichromate potash	9½	9¾	10
Prussiate potash, yel	18½	21	21½
Sumac, Sicily prime	7 00	83 50	90 00
Starch, West'n corn bls	2½	3½	3½

steam. Starting from the engine room at the bottom, the visitor next enters the receiving room, where early in the morning the chattering patois-speaking natives come to deliver the flowers for the supply of which they have contracted. The next room is occupied with a number of steam jacketed pans, a mill and hydraulic presses. Next comes the still room, the stills in which are all heated by steam. In the "extract" department, which is next reached, are large tinned copper drums, fitted with stirrers, revolving in opposite directions on vertical axes. Descending to the cellar—the coolest part of the building—we find the simple apparatus used in the process of enfleurage. The apparatus is of two kinds. The smaller is a frame fitted with a sheet of stout glass. A number of these, all of the same size, when placed one on top of the other, form a tolerably air-tight box. The larger is a frame fitted with wire netting, over which a piece of molleton is placed. The other rooms are used for bottling, labelling, etc.

The following are some of the details of the cultivation and extraction of perfumes as given in Mr. Warrick's paper:

ORANGE PERFUMES.

The orange tree is produced from the pip, which is sown in a sheltered uncovered bed. When the young plant is about 4 feet high it is transplanted, and allowed a year to gain strength in its new surroundings. It is then grafted with shoots from the Portugal or Bigaradier. It requires much care in the first few years, must be well manured, and during the summer well watered, and if at all exposed must have its stem covered up with straw in winter. It is not expected to yield a crop of flowers before the fourth year after transplantation. The flowering begins towards the end of April and lasts through May to the middle of June. The buds are picked when on the point of opening by women, boys, and girls, who make use of a tripod ladder to reach them. These villagers carry the fruits, or rather flowers, of their day's labor to a flower agent or commissionaire, who weighs them, spreads them out in a cool place (the flowers, not the villagers), where they remain until 1 to 2 A. M.; he then puts them into sacks, and delivers them at the factory before the sun has risen. They are here taken in hand at once; on exceptional days as many as 160 tons being so treated in the whole province. After the following season, say end of June, the farmers prune their trees, these prunings are carted to the factory, where the leaves are separated and made use of.

During the autumn the ground round about the trees is well weeded, dug about, and manured. The old practice of planting violets under the orange trees is being abandoned. Later on in the year those blossoms which escaped extermination have developed into fruits. These, when destined for the production of the oil, are picked while green.

The orange trees produce a second crop of flowers in autumn, sometimes of sufficient importance to allow of their being taken to the factories, and always of sufficient importance to provide brides with the necessary bouquets.

Nature having been thus assisted to deliver these, her wonderful productions, the flowers, the leaves, and the fruits of the orange tree, at the factory, man has to do the rest. He does it ithe following manner:

The flowers are spread out on the stone floor of the receiving room in a layer some 6 to 8 inches deep; they are taken in hand by young girls, who separate the sepals, which are discarded. Such of the petals as are destined for the production of orange flower water and neroli are put into a still through a large canvas shoot, and are covered with water, which is measured by the filling of reservoirs on the same floor. The manhole of the still is then closed, and the contents are brought to the boiling point by the passage of superheated steam through the coils of a surrounding worm. The water and oil pass over, are condensed, and fall into a florentine receiver, where the oil floating on the surface remains in the flask, while the water escapes through the tube opening below. A piece of wood or cork is placed in the receiver to break up the steam flowing from the still; this gives time for the small globules of oil to cohere, while it breaks the force of the downward current, thus preventing any of the oil being carried away.

The first portions of the water coming from the still are put into larged tinned copper vats capable of holding some 500 gallons, and there forced, to be drawn off as occasion may require into glass carboys or tinned copper bottles. This water is an article of very large consumption in France; our English cooks have no idea to what extent it is used by the chefs in the land of the "darned mounseer."

The oil is separated by means of a pipette, filtered and bottled off. It forms the oil of neroli of commerce; 1,000 kilos of the flowers yield 1 kilo of oil. That obtained from the flowers of the bigaradier, or bitter orange, is the finer and more expensive quality.

The delicate scent of orange flowers can be preserved quite unchanged by another and more gentle process, viz., that of maceration. It was noticed by some individual, whose name has not been handed down to us, that bodies of the nature of fat and oil are absorbers of the odor imparting particles exhaled by plants. This property was seized upon by some other genius equally unknown to fame, who utilized it to transfer the odor of flowers to alcohol.

Where oil is used it is the very finest olive, produced by the trees in the neighborhood. This is put into copper vats holding about 50 gallons; 1 cwt. of flowers is added. After some hours the flowers are strained out by means of a large tin sieve. The oil is treated with another hundredweight of flowers, and still another, until sufficiently impregnated. It is then filtered through paper until it becomes quite bright, lastly it is put into tins, and is ready for exportation or for use in the production of extracts.

Where fat is employed as the macerating agent, the fat used is a properly adjusted mixture of lard and suet, both of which have been purified and refined during the winter months, and kept stored away in well-closed tins.

One cwt. of the fat is melted in a steam-jacketed pan, and poured into a tinned copper vat capable of holding from 5 to 6 cwt. About 1 cwt. of orange-flowers being added, these are well stirred in with a wooden spatula. After standing for a few hours, which time is not sufficient for solidification to take place, the contents are poured into shallow pans and heated to 60 deg. C. The mixture thus rendered more fluid is poured on to a tin sieve; the fat passes through, the flowers remain behind. These naturally retain a large amount of macerating liquor. To save this they are packed into strong canvas bags and sujected to pressure between the plates of a powerful hydraulic press. The fat squeezed out is accompanied by the moisture of the flowers, from which is separated by skimming. Being returned to the original vat, our macerating medium receives another compliment of flowers to rob of their scent, and yet others, until the strength of the pomade desired is reacqed. The fat is then remelted, decanted, and poured into tins or glass jars.

To make the extract the pomade is beaten up with alcohol in a special air tight mixing machine holding some 12 gallons, stirrers moved by steam power agitating the pomade in opposite directions. After some hours' agitation a creamy liquid is produced, which, after resting, separates, the alcohol now containing the perfume. By passing the alcohol through tubes surrounded by iced water, the greater part of the dissolved fat is removed.

These are the processes applied to the flowers. The leaves are distilled only for the oil of petit grain. This name was given to the oil because it was formerly obtained from miniature orange fruits. From 1,000 kilos of leaves 2 kilos of oil are obtained.

The oil obtained from the fruit of the orange, like that of the lemon, is extracted at Grasse by rolling the orange over the pricks of an ecuelle, an instrument with a hollow handle, into which the oil flows. The oil is sometimes taken up by a sponge. Where the oil is produced in larger quantities, as at Messina, more elaborate apparatus is employed. A less fragrant oil is obtained by distilling the raspings of the rind.

THE EUCALYPTUS, MYRTLE, &C.

Of later introduction than the trees of the orange family is the eucalyptus globulus, which, not being able to compete with the former in the variety of nasal titillations it gives rise to, probably consoles itself with coming off the distinct victor in the department of power and penetration. The leaves and twigs of this tree are distilled for oil. This oil is in large demand on the Continent, the fact of there being no other species than the globulus in the neighborhood being a guarantee of the uniformity of the product.

Whereas the eucalyptus is but a new comer in these regions, another member of the same family, the common myrtle, can date its introduction many centuries back. An oil is distilled from its leaves, and also a water.

Associated with the myrtle we find the leaves of the bay laurel, forming the victorious wreaths of the ancients. The oil produced is the oil of bay laurel, oil of sweet bay. This must not be confounded with the oil of bay of the West Indies, the produce of the Myrcia acris; nor yet with the cherry laurel, a member of yet another family, the leaves of which are sometimes substituted for those of the sweet bay. The leaves of this plant yield the cherry laurel water of the B. P. It can hardly be said to be an article of perfumery. It also yields an oil.

Another water known to the British Pharmacopœia is that produced from the flowers of the elder, which flourishes round about Grasse.

THE LABIATES.

The family which overshadows all others in the quantity of essential oils which it put at the disposal of the Grassois and their neighbors is that of the Labiatæ. Foremost among these we have the lavender, spike, thyme, and rosemary. These are all of a vigorous and hardy nature and require no cultivation.

The tops of these plants are generally distilled in situ, under contract with the Grasse manufacturer, by the villagers in the immediate vicinity. The higher the altitude at which these grow, the more esteemed the oil. The finest oil of lavender is produced by distilling the flowers only. About 100 tons of lavender, 25 of spike, 40 of thyme, and 20 of rosemary are sent out from Grasse every year.

Among the less abundant labiates of these parts is the melissa, which yields, however, a very fragrant oil.

In the same family we have the sage and the sweet or common basil, also giving up their essential oils on distillation.

THE UMBELLIFERS.

Whereas the flowers of the labiate family are treated by the distillers as favorites are by the gods, and are cut off in their youth, those of the umbelliferæ are allowed to mature and develop into the oil yielding fruits. Its representatives, the fennel and parsley, grow wild round about the town, and are laid under contribution by the manufacturers.

The compositæ are represented by the wormwood and tarragon (Estragon).

THE GERANIUM.

Oil of geranium is produced from the rose or oak-leaved geranium, cuttings of which are planted in well-sheltered beds in October. During the winter they are covered over with straw matting. In April they are taken up, and planted in rows in fields or upon easily irrigated terraces. Of water they require quantum sufficit; of Nature's other gift, which cheers and not inebriates—the glorious sunshine—they cannot have too much. They soon grow into bushes 3 or 4 feet high. At Nice they generally flower at the end of August. At Grasse and cooler places they flower about the end of October. The whole flowering plant is put into the still.

THE ROSE.

Allied to the oil of geranium in odor are the products of the rose. The Rose de Provence is the variety cultivated. It is grown on gentle slopes facing the southeast. Young shoots are taken from a five-year-old tree, and are planted in ground which has been well broken up to a depth of 3 or 4 feet, in rows like vines. When the young plant begins to branch out the top of it is cut off about a foot from the ground. During the first year the farmer picks off the buds that appear, in order that the whole attention of the plant may be taken up in developing its system. In the fourth or fifth year the tree is in its full yielding condition. The flowering begins about mid April, and lasts through May to early June. On some days as many as 150 tons of roses are gathered in the province of the Alps Maritimes.

The buds on the point of opening are picked in the early morning. Scott says they are "sweetest washed with morning dew;" the purchaser may think otherwise where the dew has to be paid for.

The flowering season over, the trees are allowed to run wild. In January they are pruned, and the branches left are entwined from tree to tree all along the line, and form impenetrable fences.

A rose tree will live to a good age, but does not yield much after its seventh year. At that period it is dug up and burnt, and corn, potatoes, or some other crop is grown on the land for twelve months or more.

In the factory the petals are separated from the calyx, and are distilled with water for the production of rose water and the otto. For the production of the huile and pomade they are treated by maceration. They are finished off, however, by the process of enfleurage, in which the frames before alluded to are made use of. The fat, or pomade, is spread onto the glass on both sides. The blossoms are then lightly strewn on to the upper surface. A number of trays so filled are placed one on the top of the other to a convenient height, forming a tolerably air tight box. The next day the old flowers are removed, and fresh ones are substituted for them. This is repeated until the fat is sufficiently impregnated. From time to time the surface of the absorbent is renewed by serrating it with a comb like instrument. This, of course, is necessary in order to give the hungry non-saturated lower layers a chance of doing their duty.

Where oil is the absorbent, the wired frames are used in connection with cloths. The cloth acts as the holder of the oil and the flowers are spread upon it, and the process is conducted in the same way as with the frames with glass.

From the pomade the extrait de rose is made in the same way as the orange extrait.

The stronger, though less delicate, cassie is grown from seeds, which are contained in pods which betray the connection of this plant with the leguminous family. After being steeped in water they are sown in a warm and well-sheltered spot. When two feet high the young plant is grafted and transplanted to the open ground—ground well exposed to the sun and sheltered from the cold winds. It flourishes best in the neighborhood of Grasse and Cannes. The season of flowering is from October to January or February, according to the presence or absence of frost. The flowers are gathered twice a week in the daytime, and are brought to the factories in the evening. They are here subjected to maceration.

A plant of humbler growth is the jonquil. The bulbs of this are set out in rows. The flowers put in an appearance about the end of March, four or five on each stem. Each flower as it blooms is picked off at the calyx. They are treated by maceration and enfleurage, chiefly the latter. The harvesting period of the jonquil is of very short duration, and it often takes two seasons for the perfumer to finish off his pomades of extra strength. The crop is also very uncertain.

A more reliable crop is that of the jasmin. This plant is reared from cuttings of the wild jasmin, which are put into the earth in rows with trenches between. Level ground is chosen; if hillside only is available, this is formed into a series of terraces. When strong enough the young stem is grafted with shoots of the Jasminum grandiflorum. The first year it is allowed to run wild, the second it is trained by means of rods, canes and other appliances. At the approach of winter the plants are banked up with earth to half their height. The exposed parts then die off. When the last frost of winter is gone the earth is removed, and what remains of the shrub is trimmed and tidied up for the coming season. It grows to four or five feet. Support is given by means of horizontal and upright poles, which join the plants of one row into a hedge-like structure. Water is provided by means of the ditches already mentioned. When not used for this purpose the trenches allow of the passage of women and children to gather the flowers. These begin to appear in sufficient quantity to repay collecting about the middle of July. The jasmin is collected as soon as possible after it blooms. This occurs in the evening, and up to about August 15 early enough for the blossoms to be gathered the same day. They are delivered at the factories at once, where they are put on to the chassis immediately; the work on them continuing very often till long after midnight. Later on in the year they are gathered in the early morning directly the dew is off. The farmer is up betimes, and as soon as he sees the blossoms are dry he sounds a bugle (made from a sea shell) to announce the fact to those engaged to pick for him

The tuberose is planted in rows in a similar way to the jasmin. The stems thrown up by the bulbs bear ten or twelve flowers. Each flower as it blooms is picked off. The harvesting for the factories takes place from about the first week in July to the middle of October; there is an abundant yield, indeed, after this, but it is only of service to the florist, the valued scent not being present in sufficient quantity. The flowers are worked up at the factory directly they arrive by the enfleurage process.

The reseda, or mignonette, is planted from seed, as here in England. The flowering tops are used to produce the huile or pomade.

Last in order and least in size comes the violet; for "the flower of sweetest smell is shy and lowly," and has taken a modest place in the paper.

Violets are planted out in October or April. October is preferred, as it is the rainy season; nor are the young plants then exposed to the heat of the sun or to the drought, as they would be if starting life in April.

The best place for them is in olive or orange groves, where they are protected from the too powerful rays of the sun in summer and from the extreme cold in winter. Specks of violet appear during November; by December the green is quite overshadowed, and the whole plantation appears of glorious hue. For the leaves, having developed sufficiently for the maintenance of the plant, rest on their oars, and seem to take a silent pleasure in seeing the young buds they have protected shoot past them and blossom in the open.

The flowers are picked twice a week; they lose both color and flavor if they are allowed to remain too long upon the plant. They are gathered in the morning, and delivered at the factories by the commissionaires or agents in the afternoon, when they are taken in hand at once.

The products yielded by this flower are prized before all others in the realms of perfumery, and cannot be improved; for, as one great authority on all matters has said: "To throw a perfume on the violet . . . were wasteful and ridiculous excess."

THE STUDY OF PERFUMES.

Mr. Warrick then concluded his paper in the following words: I have endeavored, I fear very unsuccessfully, to place before you a picture of the flowery land of Grasse, and of the methods adopted by the Grassois to enable us less favored Northerners to participate in the benefits accorded them by nature. But to do real justice to the philanthropic exertions of the villagers and manufacturers one requires to have spent a holiday among them; then will their jasmin not remind him only of pomade, nor their rose water only a cold cream. For it is all a matter of association.

To many of us who look back with pleasure upon our student days even Hay has its charms and it is just possible that new standards of sweetness and foulness are being evolved in our rapidly advancing species, now that the essences of things are being dissociated from the things themselves. Bad odors, say the hygienists, are not necessarily bad in themselves, but are to be avoided on account of the bad company they keep. But, thanks to this scientific age, bad company is not confined to bad odors; the pharmacist knows how to combine arsenic with lavender and lime with rose; and we do not need to name our authority when we say that things are not what they seem.

Thus the natural functions of the nose become of no avail. Our most prominent organ has to take a back seat—truly, indeed, is this a case of the first becoming the last. The day may not be far distant when its only function will be to carry our second eyes, but for this it might die out from disuse and thus end the industry of Grasse. Before that day arrives, however, I fear it will have fallen a victim to a deadlier foe. The test tube wielding tribe are waxing strong, and have slain many a homely industry. Would that each recruit to that army could look back upon a holiday spent at Grasse; then, maybe, when able to deal the blow he would forbear, and have some pity, some compassion, on the place.

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CHEMICAL MARKET.

Note—*Our prices are for large lots except when otherwise specified, and buyers of small quantities must expect to pay an advance on these figures.*

The prices current will be found on page 50.

TUESDAY EVENING, April 3, 1888.

There has been little increase in the volume of business in the chemical market. The trade seems to be waiting for the complete opening of navigation, which will come in a few weeks, and as the majority of consumers are believed to be without stock, a brisk revival of business is expected at that time. There have been no important changes in the quotations, and the general tone of the market may be said to be one of steadiness. The Liverpool market for heavy chemicals continues dull, with only a limited business doing. Messrs. Joseph P. Brunner & Co. write us under date of the 24th ult.: "Soda ash is scarce and buyers continue to find difficulty in filling orders for special brands. For 48 per cent carbonate ash 1d was paid for 100 tons. Soda crystals are in good request and are selling at from £3 12s 6d to £3 15s. Caustic soda is again easier, £3 13s 9d having been accepted for 70 per cent, although some brands are held for 1s 3d to 3s 9d, more money. Bids of £6 12s 6d have been declined by makers for a fair quantity of 70 per cent, but resellers might possibly now be found at the figure. Sixty per cent is in moderate supply and held for £3 15s to £3 17s 6d. We quote 74 per cent £7 3s 9d to £7 6s 3d; 76 per cent £8 5s nominal. Bleaching powder is slow, but not much is offering and £4 15s is the nominal price, although 2s 6d less would no doubt buy. There have been a few inquiries this week, but little actual business."

Heavy Chemicals.

Liverpool brands of 48 per cent carbonated soda ash are still in small supply and very little is obtainable for forward delivery except from second hands, the current production being closely sold up. Owing to the Easter holidays very little business was done in Liverpool this week but no change in the situation was reported. On the spot here small sales are making at 1 25@1 30c as to quantity and these were the general quotations, spot or to arrive, at the close. There are no sales of high test reported, the article being designated by the dealers as "a dead cock in the pit."

Newcastle soda ash is firm and unchanged. There is considerable inquiry in a jobbing way, but large lots are not beginning to move yet. Prices remain 1 25c to arrive, and 1 30c on the spot, though in a few instances 1 35c has been paid for small lots for immediate delivery. High test is dull and nominal.

Caustic soda ash, 48 per cent., is still inactive, only occasional small sales being reported. There is, naturally, no improvement in the tone of the market, the feeling among dealers being rather easy. Lots on the spot or to arrive are procurable at 1 20@1 25c, according to quantity and seller. High test is not wanted, and the quotation of 1 15c is entirely nominal.

Refined alkali, 36 per cent., receives no attention, and is difficult to quote in the absence of business of any sort. There is a fair demand for 48 per cent, which sells in a jobbing way at 1 25c. For 58 per cent the demand continues moderate and the quotation of 1 15c is maintained, though large buyers would probably be able to do a little better on purchases for future delivery.

Caustic soda 60 per cent is easy in sympathy with advices from primary sources, and the continued lack of demand. In a jobbing way sales are making at 2 40@2 45c, but very little is being taken. In 70 and 74 per cent there is a moderate business doing with quotations about steady at 2 20@2 25c, as to quantity.

English sal soda is offered sparingly on the spot and we hear of sales of 50 casks from store at 1 15c, though some holders are willing to accept less. For lots to arrive most dealers want 95@97½c, and sales are reported at these figures. The demand for lots to supply current wants is quite brisk, but there is not much inquiry yet for future deliveries.

Bleaching powder is a shade firmer in sympathy with the advices from abroad, still there is no appreciable change in the quotations. There is a moderate inquiry for small lots to fill the needs of the present, but we have heard of no important transactions for some time past. Prices remain 1 87½@1 92½c for Liverpool brands, according to quantity and position, Newcastle makes being still quotable at 1 82½@1 87½c.

Acids.

Acetic acid is moving steadily into consumption on contract orders placed some time ago, but we do not hear of much fresh business. Prices are still irregular but are without quotable change, the range being 2¼@3½c as to quantity and seller.

Oxalic acid appears to be in a demoralized condition. The combination is said to be still in force but the outside manufacturers are making the quotations. Sales of large lots for forward delivery have been made at 6¾c while in a jobbing way prices range from 7 to 7½c according to seller and quantity. There is not much animation in the market though the demand may be called fair. An increased outlet is expected at the opening of navigation.

Sulphuric acid is in fair request for current consumptive requirements, and the market presents no new or interesting features. Prices remain as when we last wrote, the feeling being one of steadiness. We quote 66 deg in large lots at 90@95c per 100 lbs, and in smaller quantities at 1@1 20c per lb, according to size of order and seller. The demand for chamber acid appears to be satisfactory, and we note no change in the quotations.

Miscellaneous.

Acetate of lime is moving slowly, buyers supplying their wants as they occur, when not receiving deliveries on contracts. Brown is a shade easier and may now be quoted at 1 60@1 65c but gray is steady and unchanged at 2 37½@2 40c as to quantity.

Arsenic remains firm and the tendency is upward, though no further change in quotations is reported. The demand improves as the season advances, though there is no special activity as yet. For spot lots the quotations are 3⅛@3¼c from store as to quantity, and 3c from dock, while for forward delivery 2⅞c is the lowest figure now quoted.

Blue vitriol is in increasing demand at firmer prices. Sales are reported of 300 kgs at 5½c and holders now ask 5¾@6c, as to quality and quantity.

Brimstone continues easy, but there has been more demand, and sales of 200 tons best unmixed seconds are reported at $20 ex-vessel, and $20 50 from store. There is now but one lot in store, which is held at $20 50. To arrive there have been sales of 500 tons at about $19 50, and this price is quoted for further lots. Shipments might possibly be had at a shade less. Thirds to arrive are quoted at $19, but we hear of nothing offering on the spot. The Cortesia from Girgenti for Philedelphia with about 800 tons is reported to have been wrecked.

Cream tartar is not in much demand, most consumers being liberally supplied through deliveries on contract. The combination prices are maintained, though the manufacturers have extended the time of deliveries at current rates to July 1st. We quote crystals at 33@33½c and powdered at 32¾@33¼c, according to quantity and style of packing.

Nitrate of soda has further depreciated in value under freer offerings, and lots from dock are now procurable at 2 05c while 2 10@2½c are the store prices. The demand is slow and no sales of consequence are reported. Futures remain firm at 1 95@2 05c for stock afloat according to position, and 1 92½c for shipment.

Ammonias, Potashes and Fertilizing Chemicals.

The demand for the fertilizer chemicals is decreasing, as buyers are pretty well supplied on contract; and the feeling among holders is consequently somewhat easier. Since we last wrote there have been no sales of consequence, and the close was rather quiet. We continue our quotations of $3 30@3 37½, for sulphate of ammonia, $2 25@2 30 for high grade, and $2 15@2 20 for low grade dried blood. $2 20@2 25 for azotine, $21 50@22 for high grade, and $18 50@19 for poorer qualities of tankage, $16 50@17 for refuse bone black, as to quality; $27@28 for ground bone- and $25 f. o. b. factory for fish scrap.

Muriate of potash is arriving quite freely, but the receipts are nearly all deliverable on contract orders, and exert no appreciable effect upon the tone of the market. There is a good demand, and we note sales of 500 tons at the quotations, which are $1 77½@1 80 as to quantity on the spot, $1 72½ for sail and $1 77½ for steamer shipments.

Double manure salt is not much inquired for, but as there is little here the market remains steady. We quote $1 12½@1 15 for rail shipments and $1 17½ to arrive by steamer.

Chlorate of potash for present delivery is in fair request and the market presents a steady tone. We quote 15@15¼c according to quantity and position.

Kainit remains scarce and firm but without quotable change.

Philadelphia Chemical Market.

PHILADELPHIA, April 2, 1888.

There was but little activity in the English chemical market during last week and prices ranged at about figures given in previous re-

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PURE ALKALI

Manufactured by the Ammonia Process.

TRADE MARK.

Widnes, Lancashire, England.

The superiority of this Alkali is evident from the following analysis made by the well known English chemists Huson Bros:

Carbonate of Soda,	99.41 per cent.
Sulphate of Soda,	traces
Chloride of Sodium,	0.15 "
Carbonate of Lime,	0.17 "
Magnesia,	traces
Peroxide of Iron,	0.06 "
Alumina,	0.03 "
Silica,	0.08 "
Moisture,	0.10 "
	100.00

WARREN & CO.,

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NATRONA

TRADE MARK

SODA

(ABSOLUTELY PURE.)

The nature of the raw material from which NATRONA BI-CARBONATE OF SODA is made—viz., Kryolith, a mineral containing pure Sodium—insures a purity and uniformity of product which cannot be obtained from any other known material. In making Bi-carb Soda from any other raw material, the use of sulphuric acid is a necessity, but none is used in any part of the process of making NATRONA BI-CARB; hence it is entire freedom from the slightest trace of arsenic, which is always present in ordinary soda. Its absolute purity and entire freedom from all traces of sulphate of soda, common salt and other impurities, together NATRONA BI-CARB NEARLY TASTELESS, and, being bolted through the finest bolting-cloth, insures the finest state of division.

To these indisputable facts the attention of CONSUMERS of soda is specially called. They are IMPORTANT, and should influence both those who use and those who sell soda, to buy and sell NONE BUT THE BEST.

The NATRONA Bi-carb Soda is kept in stock by almost every wholesale druggist and grocer throughout the United States, of whom it may be ordered.

Natrona Bi-Carb. Soda is unequalled by any other brand Of English or American Manufacture

Penna. Salt Manufacturing Co.,

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MANUFACTURERS OF

Purified AND Caustic Soda Ash

Cream Caustic Soda, Bleaching Powder, Sulphide of Sodium

CHLORATE OF POTASH,

Chlorate of Soda,

AND

Chlorate of Baryta and other Chlorates.

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The Purest, Cheapest and most Soluble form of Crystallized Soda.

1 lb. Equal to 2 1-2 lbs. of Soda Crystals.

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SAL SODA. OXALIC ACID. OIL LEMON.
NITRATE OF SODA. BRIMSTONE. OIL BERGAMOT.
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Carbonate in 2 oz., 4 oz. small square & powdered. Calcined ⅛ & 1 lb. bottles and 1 lb tins
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OUR GOODS ARE MADE IN STRICT CONFORMITY TO THE U. S. PHARMACOPŒIA.
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Carbonated Soda Ash, 48, For Glass Makers
BLEACHING POWDER and SAL SODA.
Chemically Pure Caustic Soda 77 per cent.
Our 48 per cent Ash is manufactured under the NEW PROCESS, expressly for Glass-making. Newcastle test being more liberal than Liverpool. buyers of this brand gain from 1 to 2 per cent. in strength.
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port. The week's receipts were rather larger than noted for some few weeks past but as the bulk was disposed of previous to arrival there are but few goods pressing on the market.

Carbonated soda and liverpove 48 per cent can be had on spot at 1.32½@1.40 with a firmer feeling visible as stocks. are not heavy and some brands are scarce. To arrive 1.30@1.40 is named while for shipments 1.27½@1.35per cent will buy as to brand and quantity. 58 per cent still continues exceedingly dull and no prospect of any change for the better in the near future; prices are at previously quoted figures, Newcastle 48 per cent being in light stock sales are confined to lot jobbing parcels for which 1.27½@1.35 is named. To arrive 1.25@1.30c is asked.

Caustic soda ash 48 per cent is bringing 1 32½ @1 40c for immediate delivery, to arrive 1 30@ 1 37½c is named; shipments can be bought at 1 25@1 32½c as to brand. Caustic soda 60 per cent is dull and same can be said of the other tests. Figures of last week hold good in all instances.

Refined alkali 36 per cent is held on spot at 1 25@1 30c and to arrive same figures are named, but on firm offer they might be shaded for a round lot. Solvay 36 per cent is bringing 1 27½@1 32½c from store, and future deliveries are quoted at 1 17½@1 25c as to quantity. B M & Co's 48 per cent has arrived freely, but as all went to fill contracts the market is still bare of stock; jobbing parcels are bringing 1 30@1 35c, shipments are firmly held at 1 22½@1 30c, and a fair amount of trade done during the past few days. B M & Co's 58 per cent is moving along quietly and quoted on spot at 1 22½@1 30c, with sales of a few jobbing parcels reported within the range; to arrive and for shipments 1 22½@1 30 is named, with probabilities of 1 20c being accepted for round lot on firm offer.

Sal soda is firm on spot at 1 05@1 10c and with but a limited supply to draw from. To arrive 95@100 is named, 92½c would possibly buy round lot.

Bleaching powders on spot are quoted at 1 95@2 10c, but sales were made at slightly under these prices early in the week. To arrive 1 90@ 200c will buy as to brand.

American Association of Railway Chemists.

The fourth regular meeting of this association will be held at the Stillman Hotel, Cleveland, Ohio, May 14, 15 and 16, 1888.

The sessions of the 14th will be private, but those of the 15th and 16th will be open to all interested in the subject, which will be "Oils for Railway Use."

Oil refiners, dealers and chemists are especially invited to attend, and are requesteed to bring oil-testing apparatus, and full records of their methods, investiga tions aad experiments

The following will be the order of discussion:

LUBRICATING OILS.

General discussion upon the character of oils used for lubricating passenger cars, freight cars and locomotives. Subjects for special discussion:

1. Flashing and Burning Tests.—Relation of to lubricating quality. Advisability of having but one kind of tester and a uniform method of making the tests.

2. Thermometers.—Variation of. Importance of having them correct. Manner of obtaining and correcting.

3. Cold Tests.—The report of the committee on cold tests appointed at the Omaha meeting will be discussed. It is given here in full.

The committee appointed by the American Association of Railway Chemists to determine upon a standard method of making the cold test of oils respectfully submit the following:

Definitions.—The cold test of an illuminating oil shall mean that temperature at which it shows turbidity, ½ inch in height, at the bottom of the bottle when tested with the standard apparatus, and in the manner hereafter described.

The cold test of a lubricating oil shall mean that temperature at which it will just flow when tested with the standard apparatus and in the manner hereafter described.

Method of Making the Test.—Put two ounces of the oil to be tested in the bottle and insert the thermometer through the cork until the bulb is near the center of the bulk of the oil. After packing the freezing chamber with ice or a mixture of salt and ice, suspend the bottle in the cold air chamber so that it does n t touch the sides or bottom. Place a second thermometer in the cold air chamber so that it does not touch the sides or bottom, and keep at the desired temperature until both thermometers register about the same degree. Then proceed as follows:

For the cold test of illuminating oils: Note the reading of the thermometer suspended in the oil when the turbidity of the oil has reached the height of ½ inch.

For the cold test of lubricating oils: Note the reading of the thermometer suspended in the oil when the oil just ceases to flow, when the bottle is lifted from the cold air chamber and inclined.

W. D. GREGORY,
W. L. BROWN,
G. M. DAVIDSON,
Committee.

The committee further recommend for discussion points noted in the following clauses:

1, The oil bottle is to be lifted, inclined, and examined, each five degrees of drop in temperature of its contained thermometer until the oil thickens, then at each two degrees until the cold point is reached,

2. The sample of oil is not to be disturbed, but is to remain three hours at rest in the cold air chamber, at the particular temperature at which the oil is supposed to just flow.

3. Shall the oil be heated or chilled to any definite temperature before commencing to make the test? Shall the oil be allowed to remain in the laboratory till the sample has reached the normal temperature of the room before commencing to make the test or shall the cold test be started immediately after the sample of the oil is taken from the barrel or tank?

4. Can the method for making the cold test of mineral oil be used for determining the cold test of animal and fish oil?

All the members of the American Association of Railway Chemists, and also the chemists of the various manufacturers to whom a copy of this may be sent, are earnestly requested to carefully consider the method recommended and to suggest such changes or additions as they think will improve the method and aid the association in adopting a standard method for determining the cold test of oils which will be acceptable to the consumer and the producer.

4. Viscosity.—Relation of the lubricating quality. Standard instruments for.

5. Specific Gravity.—Best method of determining (hydrometer or balance). At what temperature?

6. Miscellaneous Tests.—Ash, tar, loss, acid, etc.

7. Lubricating Tests.—Mechanical. Practical in service (best method of making).

8. Cylinder Oils.—Composition of. Proportions for, etc.

ILLUMINATING OILS.

Mineral Oils.

1—Flashing and burning tests. Instrument and method.

2—Specific gravity.

3—Cold tests.

4—Burning tests, photometric, lamp and lantern, special apparatus, etc.

—Composit ion, distillation tests, etc.

6—Color.

Animal Oils.

1—Free acid (influence of an illuminating quality).

2—Cold tests.

3—Adulterations, influence of, detection of, etc.

Signal Oils.

1—Composition, special tests, etc.

MISCELLANEOUS.

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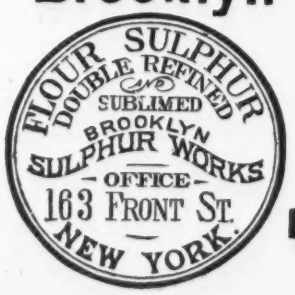

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" Diaphoretic,	" " Red,	Nickel Oxide,	Soda Bicarbonate
Ammonia Carbonate,	" Scale,	" Nitrate,	Tin Oxide
Bone Ash, pure white,	Feld Spar,	Potash Carb,	Tin Suboxide
Chrome Oxide,	Fluor Spar,	Saltpetre,	Uranium Oxide.

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CHLORATE OF POTASH and SAL SODA.
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Origin of Color and the Constitution of Coloring Matters.

Mr. William Crookes, President of the London Chemical Society, read the following paper upon the foregoing subject at a meeting of the society on March 1:

The majority of compounds, especially those of carbon, are colorless; and in the case of elements whose compounds are invariably colored, the greatest diversity of coloring is often noticeable among the several compounds of one and the same element—as in that of chromium or manganese, for example: it is therefore clear that color is in a high degree conditioned by special forms of intramolecular structure, and consequently that any attempt to determine the "origin of color" must be based on a knowledge of the structure of colored matters. For this reason it has become possible only within recent years to discuss the relation between color and constitution. The author first gives an account of what has already been done in this direction, and refers to Graebe and Liebermann's paper on "The Connexion between Constitution and Color in the case of Organic Compounds" (*Ber.*, 1868, 109); and to that of O. N. Witt—"Zur Kenntniss des Baues und der Bildung farbender Kohlenstoffverbindungen" (*ibid.*, 1876, 522). Graebe and Liebermann laid down the rule as of universal application that, excluding colored metallic salts of colorless organic acids, all colored organic compounds which have been put to the test are decolorized by reducing agents (quinones, azobenzene, nitro-compounds, etc.); and from this they inferred that coloring matters either contain elements with incompletely saturated affinities, or certain of the atoms are present in more intimate association than their retention in the molecule necessitates. Notwithstanding the change in our views of the constitution of quinone, Graebe and Liebermann's conclusions appear still to be accepted, although if Fittig's contention that the quinones are diketones be correct, their conclusion that the color of the quinones is conditioned by the intimate union of the oxygen atoms obviously does not apply. Witt formulated the conclusion that the tinctorial nature of aromatic compounds is the consequence of the presence together of a color giving or chromophoric group, such as NO_2, CO, $N:N$, and of a salt forming group—either OH or NH_2. This chemist directed his attention almost exclusively to the consideration of the nature of compounds possessed of tinctorial properties as distinct from mere colored substances or pigments. The origin of color, however, is presumably traceable to similar causes in both classes of compounds, while the property of acting as a dye may conceivably depend on peculiarities which stand in no relation to those which are causative of color; this is an important question to determine. The dominant idea on which the argument in the paper is based is illustrated by the author by comparison of the unsaturated hydrocarbons with the paraffins. In the paraffins, which are singularly inert compounds and all but colorless, even in the infra-red and ultra-violet regions of the spectrum, the carbon atoms are united only by single affinities, and the remaining affinities are engaged by monad atoms; the unsaturated hydrocarbons are not only more reactive than the paraffins, but the beginnings of color are manifest in them if examination be made in the regions above and below the visible spectrum. The latter are conventionally represented by formulæ, in which the carbon atoms appear as united by two or three affinities of each, typified by straight lines or dots; these formulæ apparently serve to indicate that the value of a "double bond" is twice, and that of a "treble bond" twice that of a "single bond," and there can be little doubt that this has long been tacitly assumed, although such a doctrine may not actually have been taught. But within recent years the idea has found favor that "affinity has direction;" v. Baeyer especially has availed himself of this hypothesis in his discussion of the differences in stability of various types of closed chain hydrocarbons. The author would apply it to polyad atoms generally; and in formulating compounds in which such atoms are united by more than single affinities, would represent the polyad atoms as united by curved lines in order to suggest that the affinities are under strain in consequence of their being free to act only in certain directions. In the paper, the author cites a large number of cases among inorganic compounds, which he thinks afford evidence that the production of color is dependent on special modes of atomic arrangement, and particularly on such modes of arrangement as involve the existence of a condition of strain in the resulting system, due probably to peculiarities in the affinity relationships of the constituent elements of the system which prevent complete mutual neutralization of the affinities. The occurrence of color, therefore, is more frequently than not concomitant with a high degree of reactivity, the colored compound being usually one of "high potential" or slight stability. Among carbon compounds there is no instance of a hydrocarbon being colored, giving the term its conventional meaning; and omitting nitro compounds, there are very few exceptions to the rule that derivatives of hydrocarbons, containing only monad radicles, are colorless; the exceptions, moreover, are of a very noteworthy character, being either central derivatives of anthracene, i. e., compounds formed by displacement of the hydrogen atoms of the central nucleus of anthradene—which although not colored is significantly fluorescent; or the monad radicle contains at its origin a radicle such as CO. A number of illustrations are given in illustration of this statement. Attention is then drawn to the quinones and their derivatives, Fittig's ketone formula being throughout adopted for these compounds. The author then discusses the constitution of the better known dyestuffs, and is thereby led to conclusions which in some cases are different from those hitherto accepted.

Azo Dyes.—Liebermann's experiments on benzene-azo-betanaphthol are referred to, and also those of Zincke and Bindewald, attention being specially directed to the production by these latter chemists from alphanaphthaquinone and phenylhydrazine of benzene azo-alphanaphthol identical with that obtained from alphanaphthol and a diazobenzene salt. The author thinks that the general bearing of these results has escaped notice, and proposes to apply them to azo dyes generally, formulating these as of the following types:

$$O{<}\overset{\text{ortho}}{\underset{\text{para}}{C_6H_4}}{>}N{\cdot}NHR' \qquad HN{<}\overset{\text{ortho}}{\underset{\text{para}}{C_6H_4}}{>}N{\cdot}NHR',$$

according as they are derived from phenols or amines. The high tinctorial power of the azo-dyes would appear to meet with a more satisfactory explanation on this hypothesis than is afforded by Witt's theory, and it affords a simple explanation of the fact that no acid radicle other than OH, and only ortho- and para-hydroxy or amido compounds are available for the preparation of azo-dyes. Cases in which this hypothesis will not apply are discussed.

Rosaniline and its Congeners—Although the formulæ usually assigned to these represent them as compounds of the quinonic type—assuming that in quinone the oxygen atoms although in the para position are united to each other, the idea that they are quinonic compounds which Graebe, Liebermann and Caro expressed prior to the publication of E. and O. Fischer's well known investigation has apparently now been entirely lost sight of. The author would formulate them in the manner indicated by the following examples:

$$O{<}\overset{\text{ortho}}{\underset{\text{para}}{C_6H_4}}{>}C(C_6H_4{\cdot}OH)_2$$

Pararosolic acid.

$$HN{<}\overset{\text{ortho}}{\underset{\text{para}}{C_6H_4}}{>}C(C_6H_4{\cdot}NH_2)_2$$

Pararosaniline.

Phthaleines—v. Baeyer's researches are commonly held to prove that these compounds are derivatives of phthalic

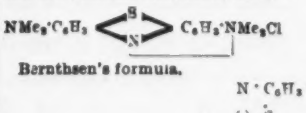
$$C_6H_4\begin{Bmatrix}CH_2\\CO\end{Bmatrix}O.$$

The arguments on which this conclusion is based are discussed in the paper: it is pointed out that the properties of the various compounds classed as phthaleines are so diverse that it is desirable to more fully examine the evidence on which they are grouped together, especially as, apart from the assumption that the phthaleines are phthalide derivatives, there is little reason to believe that the lactides are chromophoric compounds. V. Baeyer supposes that phenolphthalein is formed from dihydroxytriphenylhydroxymethanecarboxylic acid by separation of the elements of water from the carboxyl and the methane hydroxyl, a lactonic anhydride being thereby produced; but if the hydroxyl of the carboxylic radicle were to separate with a hydrogen atom of the neighboring C_6H_4OH, a derivative of hydroxyphenylanthranol would be obtained. This latter constitution, however, has already been assigned to the phthalidein isomeric with phenolphthalein. The conclusion that interaction does takes in this latter manner in the formation of fluoresceins would serve to explain the fact that orcinol—

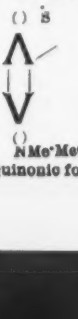
$$(CH_3{:}OH{:}OH{=}1{:}3{:}5)$$

does not yield a fluorescein, whereas the isomeric cresorcinol ($CH_3:OH:OH=1:2:4$) does, as an anthracene derivative could only be formed from an orcinol containing two contiguous undisplaced hydrogen atoms. It is possible that certain of the phthaleins are derivatives of phenylenediphenyl ketone $C_6H_4(COC_6H_5)_2$. The formation of triphenylmethane derivatives from compounds of this type can easily be accounted for, as benzil is converted by alkali into diphenylglycolic acid; and this assumption would serve to explain the formation of additive compounds with acids, such as are obtained from orcinphthalein, for example. It is noteworthy that the dimethanilidophthalein prepared from dimethylaniline is not only itself colorless, but yields colorless salts; this may be a true phthalide derivative. Also that the diamidodiphenylphthalide which v. Baeyer prepared from diphenylphthalide and which he converted into phenolphthalein, when methylated yields a green compound apparently identical with the "phthalic green" which O. Fischer prepared from dimethylaniline and which he represented as an anthracene derivative.

Methylene blue.—It is suggested that this also is a quinonic compound, thus:—



Bernthsen's formula.



Quinonic formula.

Other dyestuffs and colored compounds are considered in the paper.

Dr. Dobson said that Dr. Armstrong had called attention particularly to the type of colored substances. Now flowers of sulphur at -50 deg. are white; larger pieces of sulphur are nearly colorless; but on warming both forms become more and more yellow, and at +50 deg. are of an intensely yellow color. Whatever be the type on which sulphur molecules are built up there is not the slightest evidence that its chemical properties are changed between -50 deg. and +50 deg., or in other words that the structure of its molecules is altered. The color of sulphur, therefore, is not dependent on its chemical type between -50 deg. and +50, but on its temperature. Many similar examples can be quoted. Thus zinc oxide is white at common, and yellow at higher temperature. The influence of molar arrangement is seen in the following examples: larger pieces of silver are white, powder of silver is black; pieces of platinum gray, powder of platinum black; a sublimate of mercuric sublimate is dark brown, and powder of the same substance red. In all these cases there is no evidence that the molecular structure of the substance has undergone any change.

Professor Rucker said that if he had understood Professor Armstrong rightly his hypothesis was not in any way opposed to the idea that the forces between atoms acted in straight lines, if for purposes of illustration they made the crude supposition that a carbon atom had four poles or centers of force on its surface, it was possible to conceive another atom adhering to one of the poles, or to a point on the surface half way between two of them. The heat of combination, the stability of the compound and so forth, would depend on the position assumed by the second atom relatively to the poles, but no single pole would have done the maximum amount of work which the attractions it exerted could perform on the atom until the latter finally adhered to it. In other positions there would therefore be a certain amount of "residual affinity." A position of more or less stable equilibrium might be found in which an atom combining with others was under the influence of a resultant force which was not equal to the sum of its individual components, and he believed that it was the ideas of this kind which Professor Armstrong's notation was intended to convey. As regards the question whether color was due to the internal arrangement of the molecule, absorption was ordinarily attributed to vibrations set up among the atoms of which each molecule was composed. He thought that attempts such as that embodied in the paper to connect the physical properties of substances with the molecular constitutions were necessary before any further attempt was made to frame a mechanical theory by which the connection should be explained.

Professor G. C. Foster referred to Professor Armstrong's remark near the beginning of his paper that, in the discussion of the coloration of bodies, their behavior towards the invisible ultra-red and ultra-violet parts of the spectrum could not be separated from their behavior towards the visible rays. In his opinion this remark was of fundamental importance. It appeared to him that the real question raised by Dr. Armstrong was whether a definite relation could be traced between chemical composition or chemical structure and the existence and position of absorption bands in the spectrum of the transmitted radiation. The presence or absence of coloration, as it could be judged of directly by the eye, gave no conclusive answer to this question, for as Professor Dewar had just reminded them, a substance might be as colorless as water, and still exert strong absorption in the ultra-red, or, as in some of the substances examined photographically by Professor Hartley, it might have strongly marked absorption in the ultra-violet. But, more than this, a body might exert selective absorption within the visible spectrum, but if it happened to absorb two complementary colors it would be judged of by the eye as though it were destitute of selective absorption altogether. The subject, therefore, seemed to him to involve a systematic study of absorption spectra.

Dr. Morley saw great difficulty in applying to inorganic compounds Dr. Armstrong's hypothesis that the less stable bodies were the more highly colored, and instanced the yellow and red mercuric iodides, the red iodide being the more stable at ordinary temperatures.

Mr. A. G. Green remarked that, as he understood, Dr. Armstrong considered the color of organic coloring matters to be due to the unsaturated affinities or high potential of the quinone type to which these compounds can all be referred. Now he believed Dr. Armstrong regarded water as both an unsaturated and a colored body, so, applying the same argument, why should not all aromatic compounds capable of being referred to the water type be colored, or, at any rate, such as have sufficient molecular weight?

Dr. Armstrong, in reply, referring to Professor Foster's remarks, said that there was great difficulty in discussing color, owing to the want of any agreement as to a color scale, which made it impossible to compare effects produced in different regions of the spectrum. It would undoubtedly be necessary ultimately to take into account the absorption effected in the regions beyond the visible; at present, however, there was far too little information at our disposal for this purpose, but he believed that the same principles would apply in the main. In the course of the discussion, he had been asked for explanations of matters which he did not pretend to explain; he did not claim that what he had said was particularly novel, but it did appear to him that it was of importance to group together the facts, and the conclusions with regard to the character of colored compounds in general at which he had arrived appeared to be of significance.

The Art of Drilling for Oil.

BY GEORGE KOCH.

The first oil well drilled was finished Aug. 28, 1859, at a depth of sixty-nine and one-half feet, and was known as the "Drake well." It was located near Titusville. It was commenced in June, and seventy-four days later it was finished. The drilling was done with rope tools, and when drilling they made about four feet a day. "Uncle Billy Smith" and his sons, of Tarentum, Allegheny County, Pa., doing the work. The drilling tools were made at Kier's shop, Tarentum. It was a four inch hole. At that time experienced drillers could only be had at Tarentum, where salt wells were being drilled, and at the same place, at Kier's shop, was the only place where rope drilling tools could be had. Drilling was done by hand; no engines were used.

At Tidioute the first engine was used in September, 1860 for drilling oil wells, but for some years after many wells were drilled by hand. A good, eight-horse, portable engine and boiler cost about $2,000 during 1864 and 1865. The cost of getting them to the oil regions before the railroads were built was the cause of them not being used generally. The drilling tools used during the early days of the business were very primitive. The auger stem was from twelve to fifteen feet long, and one and a half to one and three-fourths inches in diameter. The sinker was ten to twelve feet in length. The tools, ready to drill, weighed from 225 to 350 pounds. The men on the well would, when necessary, often carry the string of tools on their shoulders for miles to a shop for repairs. They used one and a half to one and three-fourths inch rope for drilling and iron jars. George Smith, at Rouseville, made the first set of steel lined jars in 1865, for H. Leo Nelson. They did not prove a success. The steel came out of them. They were used with a set of three inch tools, the largest drilling tools then made, but they did not prove successful.

The first well drilled through casing was located on the Benninghoff run. It was drilled during the summer of 1863. This was the greatest invention ever conceived and applied to the art of drilling. Previous to that time all wells were drilled wet. No casing was used. Three to six months were required to drill a well 600 feet deep. Contractors at that time received from three to four dollars a foot for drilling, and the well owner paid all expenses excepting the labor. It would appear that at that time the contractor received a very remunerative price, but many of them failed. The trouble was fishing, and a lot of it was done. Iron jars and poor welding, especially the welding of the jars and the steel in the bits and reamers, was the trouble.

Fishing tools were very primitive. The valve sockets and the grabs were all the tools known for that purpose. When a bit, rimmer or part of the tools was lost in a well the floating sediment or drillings would settle and fasten it. The driller knew but little about fishing at that time, and the fishing tools were poorly adapted to the business. At this time, looking back over the tools used and the primitive methods then in vogue, it is indeed wonderful to think that up to 1863 5,201 wells were successfully drilled. In 1863 the first well was drilled through casing, and the time of drilling was made fully two-thirds shorter. The device was not patented. Tool fishing lost many of its terrors. Tools lost in a cased well do not become fastened by the drillings settling. When the oil sand is reached it can most always be told if it will be a paying well; in a wet hole but little can be told until it is pumped for a time. All drillers dislike to work in wet holes.

The rig now universally used is known as the "Pleasantville rig," and was first used by Nelson on the Meade lease, at Rouseville, in 1866. The writer took out a patent Nov. 11, 1873, on full size, fluted drills, which did away with the rimmer. This invention was a great benefit to the oil business. It reduced the time of drilling from sixty to twelve days, and the price from three dollars a foot to forty-five cents. The writer and his brother William filed an application March 31, 1877, for a patent on the bull-wheel now in use, and a patent was granted to them Oct. 1, 1878. This has also been of vast use to the oil man, but it has been poor property to the inventors. We hereby grant all our rights and privileges in and to both patents to the benefit of the oil men during the full term of both patents. During 1867 drilling was done without a sinker, and at this time no driller thinks of using them. This has been a great benefit to the trade. Heavier tools can be used with but little strain on the jars. The common sized tools are now forty-five feet long and three and three-fourths inches in diameter, with the jars screwed or welded on the top, and the rope socket screwed on to the jars. In formations, where but little sand is found, no jars are used. Drilling seems to be almost perfect at present.—*Petroleum Age.*

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The prices current will be found on page 50.

TUESDAY EVENING, April 3, 1888.

The trading in the market for dyes and dyestuffs has been for the most part on the jobbing order, with very few items of interest noticeable.

Albumen—There have been very few new sales in this article during the past week and the market has been rather quiet and uninteresting. The following figures continue to be quoted: 14@15c for domestic, while foreign is quoted within the same range. The market for egg continues to be quoted firm, with no special trading reported. The quotations are 55@60c.

Aniline colors have met with a steady sale, while prices have been stationary at old figures.

Alizarines have been selling fairly well, the demand being on the jobbing order. The quotations are now 17c, while small lots are obtainable at 18c. From present appearances it is not at all improqable that values will advance in the near future.

Bichromate of Potash—There has been a fair business doing in this article, but the market is, in all respects, unchanged from last week, with the following quotations ruling: 10½c on orders of 5 casks, while a higher figure is named on orders for smaller quantities. On bichromate of soda the demand has continued fair, with 8½c quoted on orders of 5 casks and a corresponding advance on orders for smaller lots.

Cochineal has continued dull and nominal, while stocks have been neglected and quotations, in the absence of any demand, have not been altered. They are as follows: 30c for Teneriffe silver, 30c for black and 33c for gray black.

Cutch—The market for this article, generally speaking, has been rather quiet. There have been arrivals of several vessels, on which there has been more or less cutch. Some business has been done in a jobbing way, while transactions to the extent of some 2,250 bags Diamond S. M. at 6c cash less 1 per cent are reported. The quotations for diamond S. M. are 6½c to land out of vessel, and 6¼c from store.

Divi Divi—There has been very little business doing since we last wrote, and the market is unchanged. No transactions of any moment are reported, and values are nominally quoted at $45@50.

Dyewoods—There is still a brisk demand for stick logwood, but there is a great scarcity of wood, and values are quoted very firm. The Haytien Republic, is at present laid up at Boston, for the reason that owing to the absence of wood at South America, she will be unable to get a return cargo to Boston. Manufacturers are short, and the only contracts out are one cargo of St. Marc and one cargo of Port de Paix wood. The former was contracted for at $30 and the latter at $34. There are 500 tons of St. Marc wood now in port, which was sold two months ago. The following rates are quoted, although there is none offering even at these figures: Gonaives $38, Port de Paix $38, St. Marc $36, Jamaica $31@33, roots $29@30, Laguna $38. Dyewood extracts have been selling fairly satisfactorily, while prices have been upheld. The following rule: Liquid 51 deg logwood at 7c for domestic and 10c for imported. Domestic 42 deg is quoted at 6½c; fustic at 7½@9½c for 51 deg, according to quality. Solid logwood is held at 10@11c, and solid fustic at 10¼@11½c. Sumac extract is quotable at 3½c for domestic liquid 51 deg and 7½@9c for imported. Hypernic at 13@14c for 51 deg and 20@24c for solid.

Gambier—There has been nothing special doing in this article. Sales on the jobbing order are reported at unchanged figures. We are apprised of transactions aggregating some 1200 bales on spot, at 5@5¼c. The Oneida has arrived since our last wrting. The store price continues at 5@5½c.

Indigo—There have been no transactions in either Guatemalas or Bengals. The last sales of the former were made at 65c, while the stock in first hands is estimated at 40 seroons and in second hands 250 seroons. On Bengals the quotations are as follows: 85c@$1 for low grade, $1 10@1 25 for medium, and $1 25@1 40 for fine. Madras remains quiet at 36@55c. There are more or less Bengals arriving, but the major part are sold. The tone of the market on Bengals is one of firmness.

Nutgalls—An arrival of 50 cases China galls is reported, but the same was sold sometime ago. But few transactions are noted, while the quotations are identical with last week, being 15½ cents for China galls and 14¾@15½c for Aleppo galls.

Prussiate of Potash—There has been a continued moderate demand for yellow, with the quotations at 19c. Red has been in moderate request with 42c still quoted, although on firm offer supplies could be obtained at 40c.

Sumac—There has been nothing of any moment doing in Sicily, and no large transactions are reported. There has been more doing in leaves, than powdered, of late, owing to the fact that a new use has been discovered for it, which is not yet generally known. Best known brands are quoted from $57½@$62½. In Virginia but little has been done, while the quotations continue at $45@$50.

Quercitron Bark—Has continued in good demand with values quoted firm and at the following figures, No. 1 bark $25 and No. 2 $18.

Tin Crystals are apparently unchanged, the previously reported good demand still existing, with values continuing at 25c@26.

The Production of Cutch.

Advices come from Rangoon that there is some probability of a serious diminution of the production of cutch in Upper Burmah, as indeed there has already been a palpable decline in the exports from Rangoon during the last few years. In 1883-84 the quantity exported via Allonmyo was very nearly 150,000 maunds, the following year it fell to 104,000, and in 1885-86 to only 70,000 maunds. The last named year being the first of the occupation of King Theebaw's dominions by the British, trade suffered owing to the unsettled state of the country; but in 1886-87, although the country was probably quieter than it had been during the decline of Theebaw's reign, there was a further falling off, and the quantity exported was only 64,000 maunds. The decrease in exports via Tounghoo from 10,000 to 4 maunds only need not cause any surprise, since the disturbed state of the Nyngian and Yemethen districts, which produce the cutch brought into Tounghoo, sufficiently accounts for the entire collapse of this trade. In the Irawaddy district too, the trade has decayed. The cause of this decline is to be found in the reckless and wasteful way in which the supply has been dealt with. In the time of King Theebaw forest conservancy was not known, and the lessees of the forests cared nothing for preserving the trees from fire, or of conserving the young timber.

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